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VARIOUS METHODS OF PRESERVING BREADSTUFFS IN MILLS.

v.

THERE are various modes for preserving grain and flour. In Spain wheat is preserved mostly in silos, or underground pits of peculiar soil covered with earth; wheat thus treated lasts many years. The French armies, during the Peninsular war, were accustomed to hunt up these deposits for subsistence. A flat stone generally covered the opening, and on its removal a quantity of deleterious gases generally rushed out, sometimes killing the operator with asphyxia.

The Indians of Canada deposit their corn in what is known as Caches, which are made in dry spots and then covered over. In many parts of South America the skin of an ox taken off entire is used as a means of preserving grain. The legs and neck being tied, it is filled with tightly jammed earth through a hole in the back, while suspended between posts. When thoroughly dried, the earth is taken out, and the bag is filled with grain, which is thus kept air and vermin proof. Close granaries might be constructed at less expense than many of the existing ones, and might be under as well as above ground. Some warehouse men say that they could be constructed of iron like gas tanks, or of brick and cement like water tanks, but they should be air and water tight.

Some time ago the late M. Darblay, the celebrated French miller, tried an experiment with a large cast-iron tank sunk in the ground, with the top domed over. He used an air pump for exhausting the air; and an Archimedean screw-pump to discharge the grain. It is said that it gave satisfaction, but he died before its entire completion.

A similar principle could be applied to vessels carrying grain, or even to railroad cars. Warm air could also be pumped into the receptacles to dry damp grain. While these plans are feasible to some extent, yet preference should be given to the exclusion of moisture by drying, for preservation is to some extent rendered certain, and if sealed or packed in casks, it could be kept in any climate on indefinite length of time without loss or injury, always providing that the grain did not contain the egg of insects before it was placed into the receptacle.

M. Sonnel, of France, discovered a method of preserving grain, which was highly spoken of by the French Academy. It consisted of a sheet iron cylinder, which occupied but little space; it held about two hundred and fifty bushels of grain. An air pump that could be worked by either hand or steam power, with a pressure gauge to indicate the degree of vacuum, comprised the whole apparatus. Some curious experiments with this were made at Vincennes. After a detention of seven months, the wheat, the flour, and the biscuits enclosed in the apparatus were withdrawn in a state of perfect preservation. The bread made from the flour was excellent. The cost of preservation for a year for three hundred bushels was trifling, and much less than that for a granary. The cylinders could be placed anywhere, and required no masonry. The wheat, flour, or other grains were safe from fire, from fermentation, insects, and cryptogamic vegetations. One very important ef-

fect which results from the numerous and continuous experiments made, as well by the invention of a committee appointed by the Minister of Agriculture, is that the vacuum not only kills the parasitic insects, and prevents fermentation, but it dries the grains at the same time, of course, such a statement has to be accepted with caution, and needs more experiments for a perfectly satisfactory demonstration. Much attention has been given to this subject in England, Germany and France, and in other European countries where flour has been stored in large quantities. Many kinds of apparatus have been used for the purpose of drying, and many of them have been successfully employed in expelling moisture previous to storage.

It is highly important to American millers who intend to compete with the millers of other countries to adopt measures to preserve flour from heating and subsequent loss, if not indeed, to improve its quality and increase its value. It has been calculated that over five million dollars are annually lost to American millers and shippers of breadstuffs from chemical changes and internal moisture, and this loss can be avoided by resorting to some means of freeing the flour or grain of its internal moisture, and by paying more attention to its preservation in storage, or in the manner of transporting it in ships. In countries where there is little moisture, flour is not so liable to heat, but even allowing for this, drying is always a sure safeguard against loss, when the flour or grain is intended for lengthened storage. Gluten is very liable to undergo a change when any moisture is present, and this renders the flour unfit for panification. The French government made a test about twenty-five years ago. The navy department made an experiment with some flour which was sent to the island of Martinique for the purpose of the test. Several barrels were filled with dried and others with undried flour; an equal number were filled with flour from undried wheat, and two were filled with flour from dried wheat. In order to make the test more practical both dried and undried grains were put into half a dozen barrels, besides those already mentioned. The result was, that all the dried flour and flour from the dried wheat were found good, while the flour ground from undried wheat and the undried flour were worthless. The German government has not been behind in making experiments, and it has very wisely established the custom in the provision departments of placing the flour manufactured in April and May, when the atmosphere is filled with vegetable dust, on the market and into use, so that the moisture cannot have any effect on it, thereby preventing its destruction by that agency. The manner in which flour is packed has a great deal to do with its preservation, and as it is well known to those who have made a study of this subject, flour is often spoiled by the absorption of foreign matters, therefore flour should never be stored near tar or other odorous substances. It was, no doubt, some wag-gish miller, who first suggested the term, "Animalized Biscuit," who, having done his utmost to clean his grain from the weevils, and finding the little black vermin too snugly ensconced, ground up everything, and to account for the strange flavor, gave them a name indicating the state of the grain.

EARLY NOTICES OF LOCUSTS IN NORTH AMERICA.

The Entomological Commission of the United States in their endeavor to investigate these pests as thoroughly as possible, have come across some old documents which refer to locust swarms. The earliest of these notes is found in the French edition of 1704, of Father Hennepin "Voyage and discovery in North America of new countries and the Mississippi." Speaking about Fort Frontenac or Catarqui, he says: "The land which surrounds this Fort is very fertile; we have cultivated more than one hundred 'arpents' during the two and a half years I resided there on a mission. Indian corn, European wheat, leguminous plants, pumpkins and watermelons have well succeeded there, although it is a fact that at first our wheat was badly damaged by grasshoppers. This seems to be the usual rule whenever in Canada new land is cleared, and is caused, I believe, by the extreme moisture of this country. The first settlers here fed their fowls upon them."

Now here is a singular contradiction between older and recent experience. The present entomologists of the commission are led to believe from their researches that dryness of climate and soil is most favorable for the development of the locusts, while Father Hennepin remarks that the new clearings always suffered most and that the great moisture aided the growth of the insects. But it is very probable that the old discoverer was mistaken because his area of observation was exceedingly limited, while our modern researches cover every portion of the world which has been visited by the locusts.

Another note is found in a description of the voyage of Captain Shelvocke round the world, published in 1723, where he describes the coast of California, etc., and Puerto Seguro harbor, which he visited in 1721. Here he found plenty of wood, but the trees were so eaten up and devoured by inconceivable swarms of locusts that they gave the country the appearance of a sort of winter, which else could never be observed in that climate. In the daytime these locusts were perpetually on the wing.

No other knowledge of any devastation by these insects is found anywhere as far as it relates to the United States, until 1867 and again in 1874-75-76, which are yet fresh in our memory.

EUROPEAN CROPS.

For the purpose of ascertaining the probable requirements this year for grain from this country. Secretary Frelinghuysen has had prepared estimates of the cereal crops of Europe. A fear has been expressed lest the demand for our grain might be much lessened, but the Secretary says: "Whether the present depressed condition of the wheat trade of Europe is occasioned by the separate countries drawing on their reserved stock for local reasons, or to affect prices, or legislation, or public opinion, or for some other cause, cannot be asserted with certainty, but this important fact remains, that the restrictions and estimates so far obtained prove, as far as statistics can prove, under the circumstances, that the stock of wheat on hand in Europe at the close of 1883, did not materially differ from the stock

on hand at the close of the previous year; that the wants of Europe are imperative and as great as they were in 1883, and that the demands upon the United States should be materially as great, at least, as they were in 1883. How long Europe may, or can, draw upon her reserve stock, or what the exact considerations are which control the several countries in this regard, especially in the United Kingdom, which may be said to regulate the wheat markets of the world, time alone can develop. The most liberal allowance for the wheat output necessary to the world's consumption shows that the United States should be drawn upon during the present year for 188,000,000 bushels from all other wheat growing countries. It appears that the United States supplies one-half of all the foreign wheat consumed by the several countries, and that, instead of being controlled by, we should be able to control foreign markets."

FIRE ESCAPES.

Every time when the news arrives of some great destructive fire, the question of a possible prevention of its recurrence is extensively discussed by numbers of people, with an ability in direct proportion to their intelligence and knowledge of the subject. If there has been a heavy loss of life or danger due to insufficient exits, the question of fire escapes is made very prominent for a few weeks, and then—it stops, until the next disaster. It is really amusing to see the different contrivances which prostitute the title of "fire escapes." Eight and nine story buildings have small iron step-ladders running vertically down from the roof, especially designed to do—what? To aid the firemen in ascending, they are undoubtedly very useful, but to allow an excited and dazed crowd to descend, when all other avenues of escape are cut off? It seems ridiculous in the extreme to imagine such a possibility. If anybody doubts this, let a trial be made; take an average dozen men to the top of such a roof, and see how many will go down on your "fire escape," even when they have all their wits about them; and if they do descend, time them and then compute how many could, in a case of emergency, escape the danger of fire and smoke in, say, five minutes. And then imagine women going down these vertical iron ladders!

Even if smoke or heat should force a number of people out on such a hazardous expedition, they will throw each other down without intention, for everybody, not accustomed to climbing, will hold on for dear life with his hands to those very steps upon which the feet of the one above him must descend. And if one should loose his hand hold, woe to those below him, for he will not fall alone; most likely all, or at least some of those who are clinging to the ladder between him and the street, will be forced to relinquish their hold in consequence of the fall of only one man. It is no excuse for such "fire escapes" to say that men will do things when in danger, which they never would attempt otherwise, and that therefore men who would not, for either love or money, go down on such a ladder under ordinary circumstances, would not hesitate a moment in a case of emergency. This may be true to a certain extent, but it will never excuse the insufficiency of the vertical escapes. A

few have been constructed on an inclined plane, when the walls were long enough to admit of such constructions, but the numbers of buildings fitted up on this principal are few. It will certainly be a sorry day for the occupants of such buildings, if they should ever be forced to rely upon these or similar escapes as a means of protection. If we are to have fire escapes at all, let them be efficient and especially designed for that particular building. Surely the architectural talent of the country is fully able to solve the question, and plan a building in which all fire escapes are ornamental instead of offensive to the artistic taste, but don't let us lull ourselves into a feeling of safety, because the building is provided with "fire escapes," when there is really nothing whatever which only approximately deserves this name. We must not hope for aid at the hands of the government in this direction. We may be able to have law upon law with regard to fire-proof buildings and fire escapes, and yet they will all be dead letters unless the public opinion is alive to the necessity. If we therefore strike at the root instead of the top, and agitate and discuss this matter constantly, we will obtain a better result than can be hoped for by the passage of a multitude of laws. Popular intelligence is of slow growth and needs an abundance of time, and, periodically, an artificial stimulus in the shape of some great catastrophe to keep it from stagnating.

INDIAN COMPETITION EXAGGERATED.

The more the subject is investigated the less does it appear that we need fear any increasing or ultimately serious competition from India in the matter of wheat reports, says the *Boston Commercial Bulletin*. To begin with—and there is the highest authority for the statement in the testimony of Sir James Caird, before a parliamentary committee—American wheat is superior to the Indian product and will command a higher price.

It is well known that there is a considerable consumption of American wheat merely for mixing with Indian. The best information puts the yield of Indian wheat in a good year at 270,000,000 bushels, which is about ten bushels to the acre. Of this amount about one fourth is available for export ordinarily. When, however, there is an unusually good market for wheat the natives have been accustomed to live largely on millet and other cheaper food. The tendency is now to a larger home consumption. Taking into account the fact that the population of India, which now exceeds 200,000 is increasing as the prosperity of the people advances and it is not surprising to learn that in a very short time India will have no wheat to spare for other nations.

Sir James Caird thinks that India will consume her entire crop within two years. But even disallowing this estimate it cannot be denied that the time is very near at hand. India's heavy exports to the English markets last year were due to two causes. Two exceptionally large harvests followed each other in India, and England could afford to pay a price for the wheat which returned a fair profit, namely about 12 shillings per quarter or 37 cents per bushel. This year, owing to the decline in price the exports from India have declined materially. The falling off in the exports for the month of March as compared with the same month of 1883 was fully twenty per cent.

The good wheat crop of England and Western Europe during 1883 has mainly to do with the present low price of American wheat. Our most formidable rival in wheat production is probably South Australia, and after that country Russia. At the present increase of home consumption and population the question of surplus wheat product

is not likely to hold its present importance many years.

But without discussing that point now it is evident that India's position has not been properly understood, heretofore, even in England. The conclusion to be drawn from the recent report from British India in response to inquiries of the home government is that there is no encouragement to extend wheat production in India, for export, at prices which are likely to prevail.

WHEN THE TITLE PASSES IN SALE OF GRAIN.

Among the many questions that give rise to litigation and dispute in business transactions, says the *American Elevator and Grain Trade Journal*, none has caused more than the apparently simple one whether a certain transaction is a sale or merely a contract to sell, viz: Whether the property bargained for has become the property of the buyer, or the title still remains in the seller. That the determination of this question is often of the greatest importance, is easily seen, as, for example, where property is insured as the property of the seller, and it turns out that the title has passed to the buyer, the insurance in favor of the seller would be uncollectable, because he would have no insurable interest; or where the purchaser becomes insolvent, the question may arise as to whether the title has passed so as to entitle the assignee or the judgment creditors of the buyer to take possession of it, and innumerable other instances. As this question often arises in connection with the sale of grain and other articles in bulk, we have thought it might be of interest to our readers to have explained a few of the leading rules of law by which this question is determined by the courts.

In the first place, it can be fully determined between the seller and buyer by express provision whether the contract is verbal or written, by a stipulation that the title shall remain in the seller until actual delivery has taken place, or until any other specific act is done, or shall pass to the buyer only upon the doing by him of certain specified acts. It is only where the parties to the trade themselves have made no provision for the settlement of this question that the law has to decide it for them, upon certain general rules.

In the absence of any specific agreement of the parties to the trade as to when the title shall pass from seller to buyer, the rule adopted by the law is that when a certain specified lot of property is the subject of the trade, as for example, all the wheat in a certain bin, the hay in a specific stack, or any other specified lot or quantity, and the price is agreed upon, then the title passes to the buyer at once, and he can take the property away, and if it burns or is otherwise destroyed, the loss is his, and the seller will have an action for the price. If, on the contrary, the sale is of a certain number of bushels generally, or but of a particular lot, yet to be measured, then the rule is the opposite, and the title remains in the seller until the grain is measured and set apart to the buyer, and he notified of such setting apart for him.

Again, if the seller is to do any act before the sale can be completed, as for example, shelling the corn, sacking the wheat or flour, or any other act before delivery, the title does not pass before such act is done. The same is the rule if anything is to be done by the buyer before he can demand possession, as for example, if the sale is conditional that he shall pay for it before delivery, or secure his paper or any other act required of him. Under these circumstances, even if he has actually got possession of the property, and fails or refuses to pay or give security, the title to the property remains in the seller, and he can

replevy it from the buyer, or from his assignee in bankruptcy, or any executive creditor of the buyer.

So, in every instance where there is any condition to the sale, as for example, if the contract is that A will buy all the wheat in a particular warehouse or bin, and pay a specified price per bushel, provided the wheat shall be inspected and prove to inspect up to a certain grade, in such case the title does not pass to the buyer until the grain is inspected, because prior to inspection there was no way of determining whether the contract would be fulfilled, as the wheat might inspect a lower grade, and then the buyer would not be bound to take it. It is frequently supposed that possession of the property absolutely determines this question, but this is erroneous. Even though the buyer may have the property in his possession if any condition of the sale remains unfulfilled, the sale is not complete, and the title remains in the vendor, and he can take his property back again. This question is a very extensive one, and whole treatises have been written upon it; the law books are full of cases upon it, and we can not pretend to give any extensive explanation, but we simply desire to call our readers' attention to a subject which is of the utmost importance, and point out a way whereby they can avoid much needless litigation and loss by providing against the question arising, by specific contract, and we merely suggest a few general rules adopted by the courts in the absence of a specific provision by the contracting parties.

AGRICULTURE IN INDIA.

In the *New York Sun*, of Sunday last, is a communication from Govinda Das, from which we extract some interesting paragraphs:

It is a general estimate that out of every \$100 of a farmer's receipts, nearly 50 per cent. is for rent of land and farm expenses, 15 goes for marriages and presents, and the rest is for household expenses, including religious offerings. All his wants and luxuries are included in these three items. The idea of saving does not very much enter into his considerations, and thus the least of bad times is likely to drive him into the clutches of the usurer. This is the great danger of the Indian peasant nearly all over the country. Fortunately, however, his improvidence never consists in positive waste. He does not drink spirituous liquors, and his allowance for tobacco, which is often grown on the farm, is quite small.

The average daily rations per head in a peasant family consists of a pound and a half of grain made into bread without leaven, and seasoned with butter and salt; from 3 to 4 ounces of split peas, or some kind of pulse; buttermilk, a pint now and then; vegetables, spices, betel and betel nuts, and salt. The salt is an important item, as the duty on it is nine-tenths of the price, while the article is consumed pretty freely by the people. A family of seven will need 80 pounds of salt during the year, costing \$2.50, of which \$2.25 goes for the duty. In rice-eating districts 10 pounds of rice will supply the daily rations of a family of seven.

Sita Ram's family fares comfortably on \$4 a month, or say \$50 a year. Less than a fifth part of the sum will clothe them for a whole year. The male dress consists of a piece of coarse linen, 5 yards by 1½, which is folded round the waist, costing 25 cents, and a similar wrapper of smaller size worth 15 cents. In winter the wrapper is of wool, mixed with cotton, worth from 50 to 75 cents, which will last two or three seasons. The women's dress is not more costly. It includes a short jacket, while from the peculiar manner of folding, one end of the wearing cloth (which is a little longer than the man's) serves as a wrapper. Two changes will run through the year. Shoes are sel-

dom worn by the males, and never by the females.

A farmhouse will cost about \$20 to build, and will take from three to four weeks, with as many men's labor. Each farmhouse has a cattle fold on the outside, whence you enter a small open court twenty feet square, which is surrounded by chambers or raised platforms. The structure is of mud plastered thick on both sides of a framework of bamboo stems, which are about eight feet high, hollow in the centre excepting at the joints at intervals of fifteen inches, and about three and four inches in diameter. Wooden posts and rafters support the thatched roof, woven with straw, splintered bamboo sticks, and jute string.

The furniture of such a house consists of brass plates and pots, an iron pan, a knife or two, a stone mortar, a hand mill for grinding corn, mattresses and pillows, the total cost of which does not exceed \$10, and most of which will last for two generations.

A farmer will cultivate a farm of ten acres with the aid of his sons and two bullocks, which latter are also employed to draw water from the well for irrigation. The land is placed under irrigation in succession—about four acres each year. It is fairly manured, and the manure, besides yielding a lucrative crop, leaves the land in a favorable state for dry crops till its term for irrigation and manure comes again.

The annual rent of land varies all the way from fifty cents to \$20 the acre. The average is \$2.50 the acre for wet land, and 75 cents for every dry acre.

Farm servants are employed only on the richer farms, say of 30 or 40 acres or upward. The average extent of farms is from eight to ten acres. A man with twenty-five acres is a big farmer, and represents a small fraction of our agricultural class, while the proprietors of forty acres and over are considered landholders.

Laborers, when employed, are paid thus: Two good meals a day, coarse clothing, and from 50c. to 75c. in cash. A laborer will eat during the day, two pounds of flour and four ounces of pulse, with a little butter, buttermilk, and salt. A hard-working ploughman, working from morning to night, will eat 3 pounds of flour in a day.

The amount of land capable of bearing fairly good crops of wheat, is not known accurately. There are vast tracts of land not used for this purpose for want of the means of disposing of the produce. In the Punjab alone there are 20,000,000 acres of good but uncultivated land, of which it is estimated, at least 10,000,000 acres could be immediately placed under the wheat crop. It is well known that in the Bengal and Behar, the area of cultivated land has not increased since the permanent settlement with the landholders a century ago, though one great object of that measure was to give to the newly created proprietors a motive to bring under cultivation, jungles and unused lands of the extent of fully one-third of the present cultivated area. All this available land, moreover, is removed from the marshy delta, where the rice crop alone can thrive, and it is well fit for the growing of wheat. Indeed, aboriginal tribes have been known here and there, to grow patches of the crop by burning down the jungles, utilizing the ash as manure, and with no other instruments for tilling the soil than short knives. A large part of the province of Oude was desolated and deserted some years ago by political revolutions and other causes: but since the stimulus given to the wheat trade, and the extension of canals along the Gangetic Doab, the fertile tracts have begun to be re-populated, and wheat is being grown where, ten years ago, all was blank, and there is no doubt that the progress will continue. The Sundarban forests comprise

an area of 3,000 square miles, in most parts of which rice can be easily grown, and, by substituting millet in many places where rice is now grown, and raising rice in new lands largely available for that purpose, much of the present millet land could be made to produce wheat. Besides, there are many cheap, but not staple cereals, grown all over the country, which would be given up if it paid to raise wheat instead. In short, not to be tedious in enumeration, it may safely be put down that nearly half as much again as the present cultivated area could be, and will have to be, utilized for purposes of tillage, and that the capacity of India for producing wheat, without causing inconvenience of any kind, and allowing for the expansion of the population, is almost unlimited. It is simply a question of finding a sure market for the producer by making branches of railroads into the producing districts in order to develop this power. As to the cost of growing the wheat, it is well understood that all calculations are unreliable, so long as the internal charges (now from two to four times what it is America) remain unsatisfactory.

That a great part of the wheat produced can be spared without inconvenience, is easily intelligible. The people have other grains to fall back upon if it should pay to sell their wheat. Besides, a larger bulk of the population live on rice and millet than on wheat. Excepting a few districts in the northwest, nowhere in India does wheat enter so largely into the dietary of the people, whether rich or poor, as to cause privation, if a great fraction of the produce were exported away. Of the 185,000,000 British Indian subjects, 65,000,000 use rice, and nearly 100,000,000 use millet as their staple. Moreover, already wheat is produced more than there is demand for in the country, and often at places devoid of means of carriage, it is sold below cost.

As to our methods of agriculture, which are generally very primitive, while it were absurd to expect leaping marches all of a sudden, a great deal of improvement can be readily and easily induced before more comprehensive and difficult plans have time to ripen.

The three great drawbacks to improved husbandry in India, are the fewness and weakness of the cattle, the want of manure, and the imperfect supply of water. Ten millions of cattle, valued at \$40,000,000, die every year from one form or other of preventable cattle diseases during the summer and following wet months. Over a great portion of the country the mass of the cattle are starved for six weeks every summer, for want of grass and fodder; but as soon as the rain comes in, and the ground is covered with rank herbage, they overeat and perish.

Experiments for improving the agricultural methods, by the establishment of model farms, have hitherto been generally unsuccessful. But the difficulties are in no way insuperable. The Indian peasant is by no means so unchangeable in his movements, or so insensible to improvements, as is generally supposed. On the contrary, he is quite alive to his own needs, and to public demands. European farming in India has been unsuccessful, because the agriculturists imported from Europe, have disregarded altogether, the ancient rules of native experience, and have not adapted their Western learning to the circumstances of a tropical country. It is true that strictly scientific farming trebles the produce, but the Indian cultivator has neither the capital, nor the knowledge required to attain this result. What should be done, and is being now realized, is to strike a mean between a strictly scientific farming, and an altogether unscientific husbandry, in order to make a successful start. The

native of India is hopelessly conservative in nothing else but his poverty.

THE report by Dr. Finlay, of Havana, in relation to mosquitoes and disease is not very encouraging in view of the approaching warm season. He claims that these little bloodsuckers aid in the spread of yellow fever because he has seen, under the microscope, minute peculiar spores on the sting of the insect after it had taken a drink from the blood of a fever patient. These spores are looked upon as the germs of the disease, and the insect would then inoculate the next person it bites. Theoretically this view may be correct, but proof is far from convincing. The same assertions have been made at various times with regard to our common flies, who are supposed to carry the contagion of disease on their bodies from place to place and from person to person; but, although such germs have actually been seen, the outbreak of any disease that could be attributed to this cause, has never been demonstrated. But either way, neither mosquitoes nor flies are very desirable guests, and if by their absence, we not only increase our physical happiness, but also decrease the possibility of deriving contagious diseases from the little tormentors, we had better use all means at our disposal to prevent their access to our homes as well as to our worthy selves.



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MILL FOR SALE CHEAP.

Situated in the town of East Bloomfield, Ontario Co., N. Y. Mill has 3 run stone and all machinery for doing first class custom and merchant work. There is eight acres of land. Good house, barn and plenty of fruit, the mill is driven by spring stream that never fails. Situated ¾ mill from depot. Reasons for selling ill health. Those wishing to buy mill property would do well to see this. BURRELL BROS., East Bloomfield, N. Y. 26

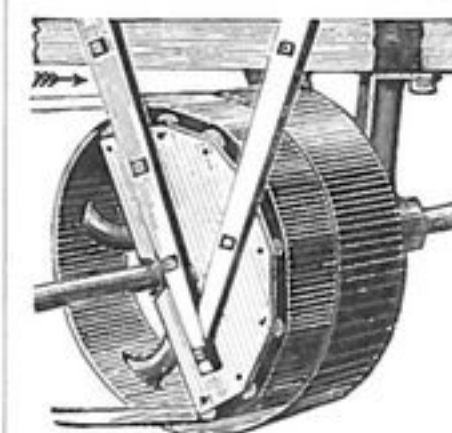
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One " 1 J. T. Walter Midlings Purifier.
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Four McCully Corn Cob Crushers.
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MILL FOR SALE.

I wish to sell my mill property, known as the York Mills, in Saline, Washtenaw county, Mich. In the heart of the best wheat growing County in the State. Mill new two years ago. Has four run of Obenchains automatic grinding mills, a three reel bolting chest, smutter, purifier and corn sheller all complete. A Little Giant water wheel sufficient to do the whole work. Good water power. About six acres of excellent land; two good houses; horse barn and cooper shop. Fruits of all kinds. Very pleasantly situated. Has a good custom trade. Three thousand five hundred dollars can remain on the property for a term of years. Reason for selling, old age and poor health. Address J. G. HOYT, Box No. 172, Saline, Washtenaw county, Mich. 25

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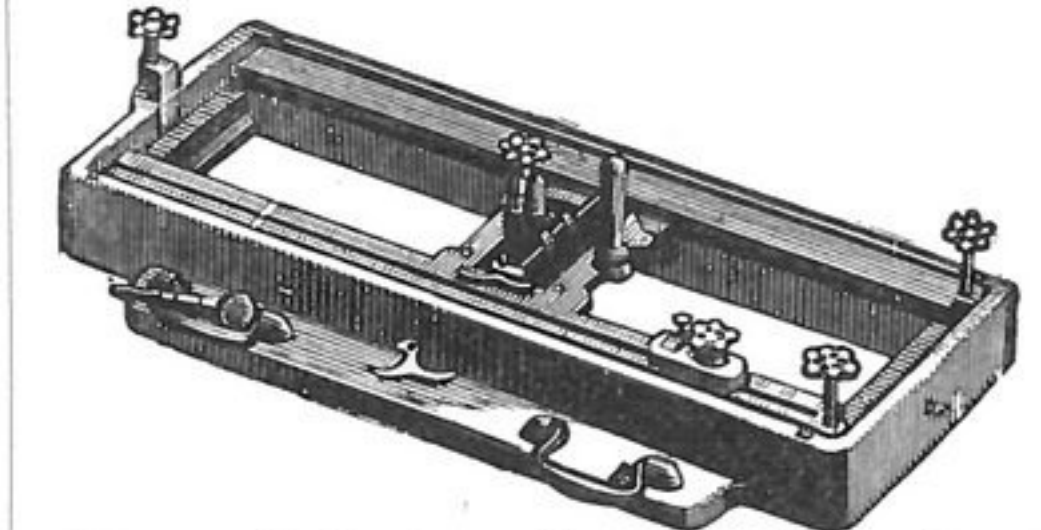
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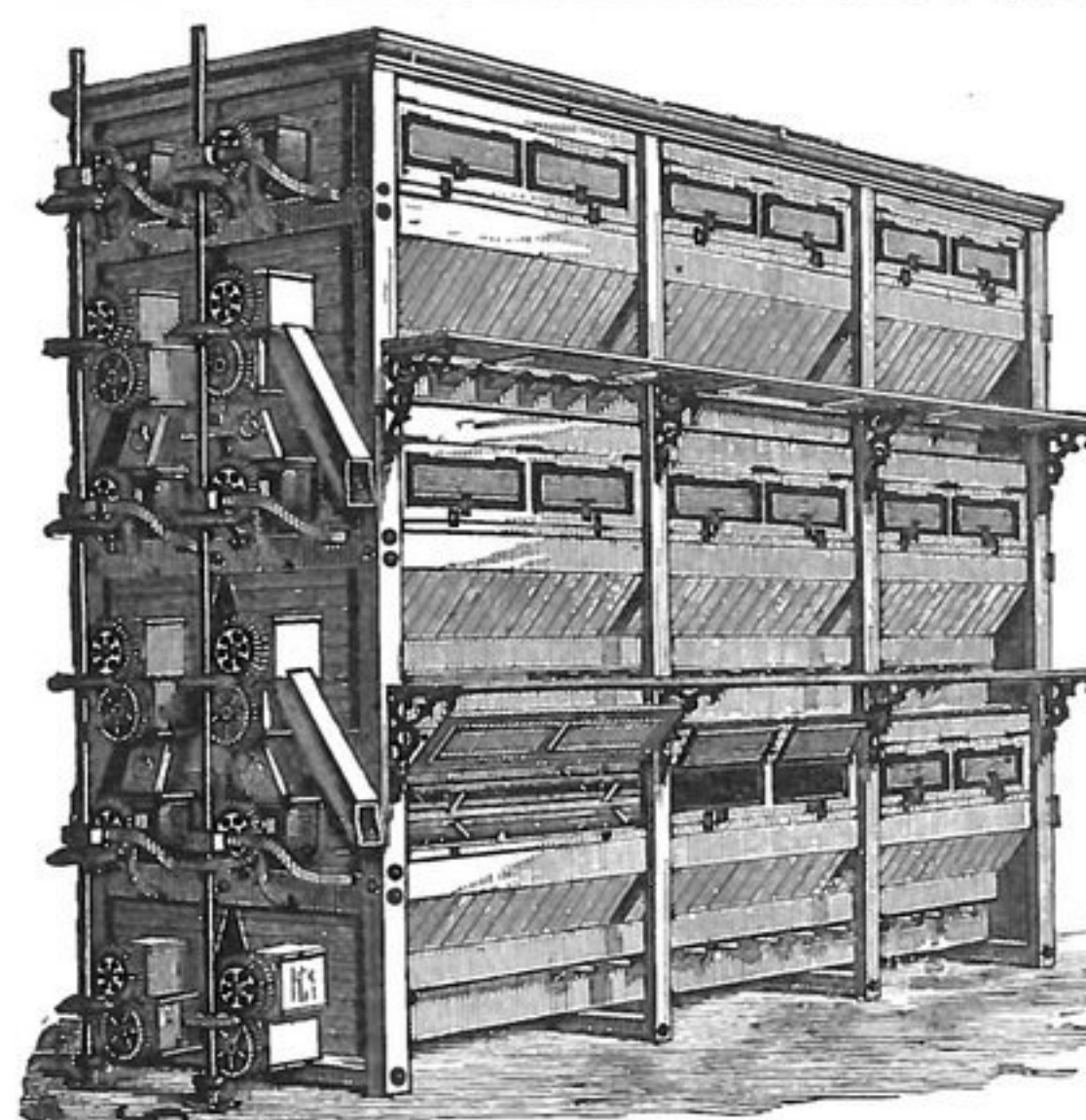
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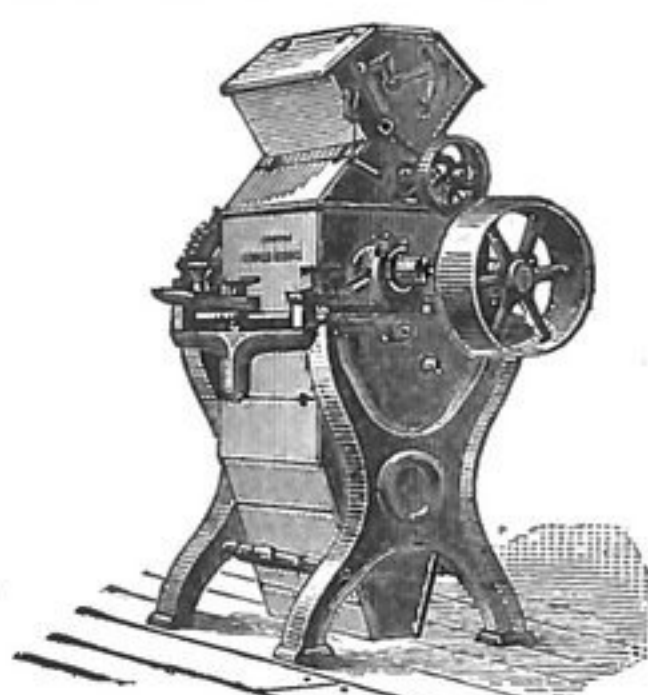
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Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with any manufacturing or mill furnishing business. Its editorial opinions cannot and will not be influenced by a bestowal or refusal of patronage. It has nothing for sale, but its space to advertisers and itself to subscribers.

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REGULATING VALUES.

THE upheaval in Wall street, of two weeks ago, has furnished a prolific subject for editorial comment for the entire press of the country. It "has been worked," as the phrase goes, for nearly "all it was worth," yet of what avail is all this expenditure of ink, paper, time and brain tissue? The excitement is dying away, some failures are, of course, occurring—and, ere long, the lessons to be gathered from it will pass from recollection, and a new era of speculation will set in, to be followed in due course by a similar re-action. The mania for speculative is very widespread in this country. No village of respectable proportions is without its local commission agent or broker who will take much pleasure in executing "orders" for such as may deem their knowledge of the "markets," and the influences affecting them, sufficiently good to warrant speculative purchases or sales. A remarkable thing, too, is, that a large proportion of the "orders" executed by these brokers come from beardless youths. Jay Gould, some sensational item will relate, exhibits millions of securities, acquired without actual labor, and these young fellows fancy they have but to follow the dictates of their judgment to one day stand as high in the financial world as does Jay. True they have had no direct contact with mercantile, commercial or financial transactions, but they nevertheless "go in," and—well the result is too well known.

Not infrequently the broker will drop mysterious words, which our speculative youth, in his anxiety to "go in" will consider as "pointers," and act upon. They do not stop to consider that, were the broker in a position to determine the course of the markets he would be a buyer or seller for himself, instead of for others. The simple

fact that a man announces himself a broker, invests him, in the eyes of the average small "operator," as endowed with every knowledge to make all "deals" of his customers profitable. It is entirely lost sight of that he, the broker, is content to plod along, feathering his own nest in a surprisingly comfortable manner from the meager sums, gathered in from his customers, in the shape of commissions for executing their orders.

It is not our purpose, however, to inveigh against the custom of dealing in puts, calls, etc., that is, we should not attempt to point a great moral lesson, or to show that loss is the general result of ventures in these fascinating schemes. We are inclined to the belief that a man may make such dispositions of his possessions as he pleases, as long as such disposition shall not detrimentally affect others. No man has either a moral or legal right to defraud or swindle. It is notorious that fortunes are made and lost in the grain, provision and stock markets almost at the will of those who may, for the time, have the nerve and capital to manipulate them. Time and again have we been told that Gould, Vanderbilt, Armour, or some other equally influential man would do thus, and so, for the sole purpose of influencing prices or values of commodities. It perhaps would be difficult, or impossible, to prove that these men ever gave expression to such intentions, but in too many instances have results shown that such courses carried out have secured to these men immense profits, to admit of question that the guiding hands in the manipulations were theirs. These men by manipulation, regulate values. Those who profit by such manipulation feel inclined to uphold the manipulators, while those who suffer directly, are quiescent until the manipulation has been accomplished and they suffer loss. So far as either party to such manipulation is concerned, pity or sympathy for their losses may be repressed, but when such loss entails disaster of greater or lesser extent upon legitimate trade interests, it would appear highly desirable that some measure be adopted which shall render such attempts at regulating values less easy of accomplishment. Speculators are simply parasites, preying upon the welfare and prosperity of the business interests of the entire country. In the animal and vegetable kingdom we destroy parasitic growth and development. Is it not remarkable that we encourage its development in the commercial and financial world.

FROM the beginning we have been unable to understand the object of, or the necessity for, the so-called "Industrial Congress" to be held in Chicago, and to which we briefly referred last week. The report of the meeting as we find it in the *Chicago Times*, May 23, rather corroborates our early suspicion that the whole movement was a one-sided affair, trumped up by a few seekers for notoriety and without representing in any way the industries of the United States. If it had not been for the sugar cane growers and wool growers, we are told the "congress" would have consisted principally of newspaper reporters. "To come down to the simple fact of the matter, the assemblage was not a congress of the industries of the country, but of a few interests that want congress to invest them with power to tax their fellow-citizens" says the *Times*. "The proceedings from first to last made that as plain as possible. The temporary chairman read an elaborate essay in advocacy of free whisky and tobacco and more taxes on the necessities of life. His plan for reducing the revenues of the government was to levy higher tariff taxes so as to discourage importation. The permanent chairman spoke in the same strain. The resolutions called for more taxes on the necessities of life,

and especially on hemp, flax, and other fibers; on sugar, on cotton-ties, on old iron rails and scrap-iron, and on rice." A few sensible gentlemen, who had been deceived by the extensive advertisements of the "congress" left in disgust when the true inwardness of the meeting became apparent. This in connection with the fact that less than fifty people were present, most of whom were residents of Chicago, shows conclusively that the "Industrial Congress," far from representing the interests of the fifty million inhabitants of the United States, was a miserable farce, and nothing else, from the beginning to the end.

THE Commissioners in charge of the forthcoming New Orleans exhibition adopted at their recent meeting a series of resolutions by which the systematic and efficient arrangement of the exhibits is to be ensured. In relation to grains the rules read:

The small grains should be exhibited, threshed and in the sheaf. Corn shelled, in the ear, and in the shuck. Grasses, wild and tame, in bales and sheaves. Pull the grass up by the roots. Forestry, farm, and garden seeds in glass show bottles. Collective exhibits showing all the preparations and products of each agricultural plant. For example, from the cotton plant, the fibre: the oil, cake, meal, hull-ashes from the seed; fibre prepared from the stalk and representative manufactures. Rice, wheat, oats, rye, barley, etc., and their mill products. Sugar-cane, sorghum, and their products. Illustrate these mills and factories by models, diagrams, pictures, etc.

Now here is an opportunity for our millers and millwrights to demonstrate the superiority of their products and machinery to the world at large, and we trust that they will improve the offer to the fullest extent. Although there are a series of local, or more or less local, exhibitions every year, they are not to be compared with a "World's Fair," where every country strives to outrival its neighbors in the field of knowledge and genius. The harder the struggle for victory in such friendly battle, the higher the honor for the victor, and we do not hesitate a moment to affirm that American milling products and milling machinery will rank high when compared with their trans-oceanic competitors.

MILLERS are, as a rule, looked upon as progressive people in this country. We are sorry to be unable to pay the same compliment to some of our professional brethren across the ocean. When we are told, for instance, that the Regular Millers' Society, of Ireland, does not admit anybody to membership who is not a stone miller, we are forced to believe that such a body of men is governed by rules so conservative as to be unfit for the present age of progress. It really appears like a healthy sign of advance to see that the closely guarded wall built up by prejudice around the Irish millers, is to be broken in the near future, for a recent report of their proceedings states that Mr. Brophy gave notice that at the next meeting "he would move that roller millers be admitted to the society, independent of their having previously been stone millers." In advocating his motion, Mr. Brophy stated that a "stone miller" would be a thing of the past inside of twelve months, and the attempt to keep the roller millers out of the society was entirely useless. We are really curious to know what action the Regular Millers' Society, of Ireland, will take in this matter, whether they will show themselves antiquated to the extreme, and reject all new ideas, or whether they will prove equal to the occasion, and open their membership to all millers.

THE MILLING WORLD has to acknowledge the receipt of a copy of the fifty-first annual report of the Philadelphia Board of Trade. From the full statistics which it contains about the various industries, we find that the receipts of flour at Philadelphia during 1883, reaching 1,348,959 barrels,

show an increase of 80,627 barrels over those of 1882. Patent flours from the Northwest are stated to be very popular. In fact the flouring mills in and about the city have had a fair business during 1883. Like the flour trade, the grain trade shows a considerable increase; in 1882 the total receipts amounted to 14,912,854 bushels, in 1883 they were 17,240,670 bushels, although 1881 is credited with the receipt of 24,369,967 bushels. The quantity of Western wheat to be had at Philadelphia during 1883 has been poor, but Pennsylvania and Southern Red and Amber, were fully up to the average and found a ready market for milling purposes.

THE destruction of forests in the Northern States has not been able to teach the needed lesson to the people, and as the lumbering interests of the Southern States are developed, the same wholesale destruction, which characterized the Northern industry, finds its sequel in the South. "If any of the sylvan gods of the ancient heathens could see the wasteful destruction of the forests now going on in some parts of the South, they would weep," sighs the *Southern Lumberman*, a paper devoted exclusively to the lumber industry. If such a journal admits that much, how must the state of things appear to the eyes of those who advocate the preservation of woodlands. Indeed, the American Forestry Congress cannot urge the importance of the matter too strongly in order to be comprehended.

JUDGING from the wonderful and elaborate discussions about the action of starches in the human body, which have lately been carried on in some of our worthy contemporaries, we are led to believe that a small course in animal physiology and organic chemistry would exert a very soothing influence upon the disturbed minds of their editors. Some of the arguments on this question are very much like a well-known explanation of metaphysics: Two men meet neither of whom knows anything about the subject under discussion, and both say, "Hence we infer—"

THE question whether the bucket shops shall be allowed to receive market quotations from the exchanges, was recently voted upon by the members of the St. Louis Merchants Exchange, and defeated by an overwhelming majority. Out of 1,003 votes cast, only 128 were in the affirmative. So far so good. But to defeat bucket shops by vote is one thing, and to defeat them in reality, or, what is equivalent, prevent them from obtaining the desired information, is something entirely different, and we are quite anxious to see whether St. Louis will be able to stand by and enforce the decision of the Merchants' Exchange.

SINCE the abolition of tolls on the Erie Canal it seems the Canadian merchants have imbibed the fear that the traffic through the Canadian canals would be reduced to nothing unless some steps could be taken to again regain the lost equilibrium. A memorial to the Canadian government by Montreal merchants has lately been submitted to the government, asking for the immediate abolition of the tolls on their canals, and, we are told, the best informed persons express the hope that the free-canal policy will be adopted.

THE exports of breadstuffs during April, as will be seen from the published statistics, amounted to \$12,257,185, against \$12,465,979 for the same period in 1883. The increase is in both flour and wheat, 4,675,410 bushels of the latter in April, 1883, against 9,221,635 bushels, and 698,827 barrels of wheat flour, against 728,362 barrels for the month ending April.

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OVER 18,000 MACHINES IN USE.

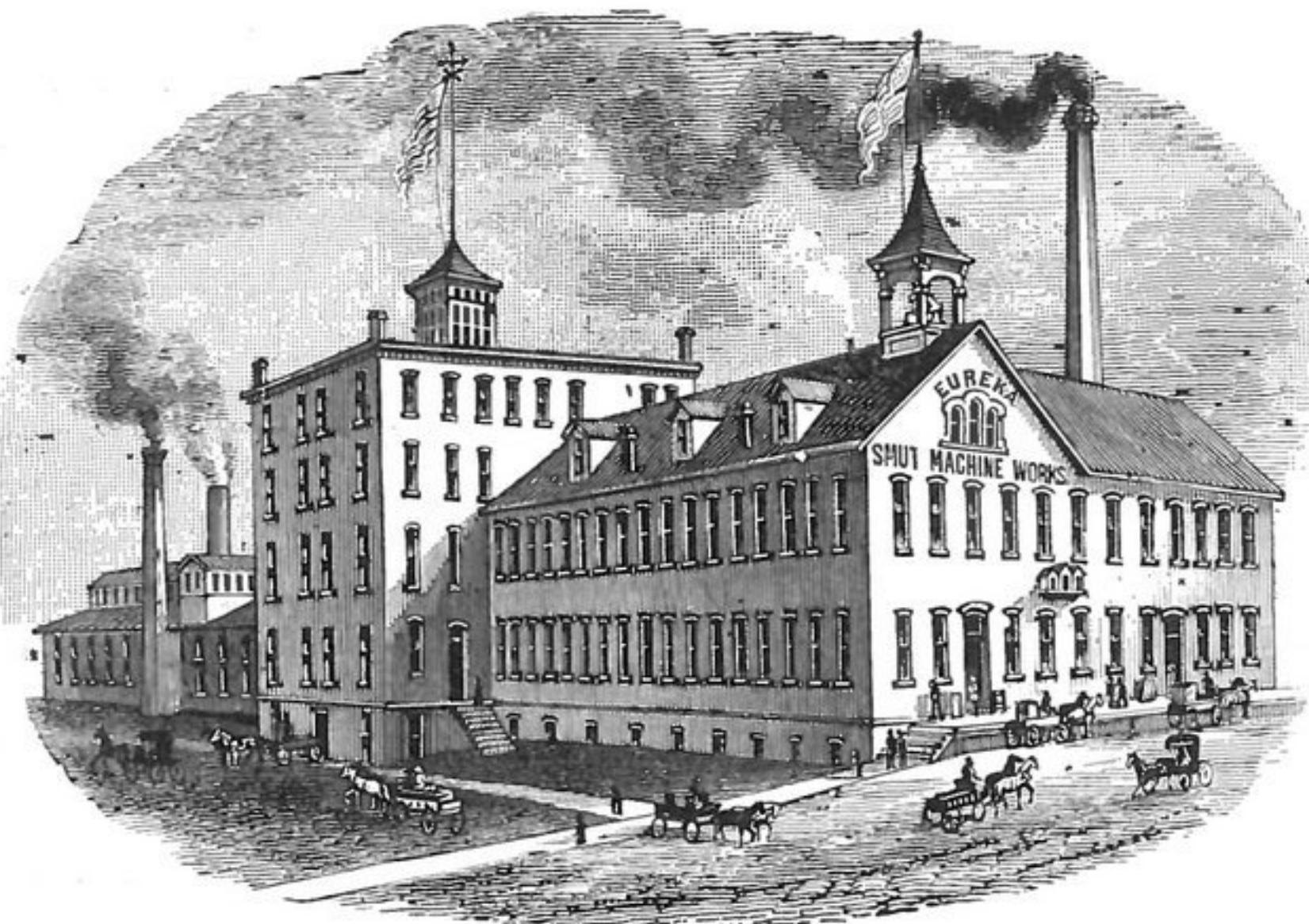
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Silver Creek Flour Packer.

Our establishment is the oldest, the largest and most perfectly equipped of its class in the world, and our machinery is known and used in every country where wheat is made into flour.

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We handle this justly celebrated cloth in large quantities, and can fill all orders upon receipt. For such as may prefer a cheaper grade, we offer our

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Guaranteeing it to be equal in every particular to any other cloth on the market, except the Dufour. We have handled it for years, have sold thousands of yards of it, and know it will fully sustain our representations.

Send For Samples of Cloth, Our Style of Making Up, and Prices.

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THE IMPROVED MORSE ELEVATOR BOLT

THE KNICKERBOCKER CO.

MILWAUKEE, WIS., March 20, 1884.

Gents: Your Bolt is working well and beats anything in the way of a Bolt, centrifugal or any other, that has yet been invented. As a general thing we do not like to certify to a thing on so short a notice, but your machine is an exception. We will experiment as we have opportunity and see how many more machines we can profitably use. Wishing you all success, we remain,

Your truly,

E. SANDERSON & CO.

THE KNICKERBOCKER CO.

JANESVILLE, WIS., April 9, 1884.

Gents: I am fully satisfied with your Morse Elevator Bolt, it is a wonderful machine, and is as far ahead of the old Bolting Chest of Reels as the roller process is ahead of stone milling. Enclosed find draft for the No. 1 sent me, please forward the two No. 1 Bolts bought of your agent, one is for bolting patent stock, and the other low grade stock.

Yours Truly,

C. W. HODSON.

THE KNICKERBOCKER CO.

CLEVELAND, OHIO, April 3, 1884.

Dear Sirs: Regarding the Morse Bolt we cannot say enough in its praise. We have three different makes of Centrifugal Reels in our mill, and having given the Morse Bolt a fair trial alongside of them we can certify as to their merits. We have demonstrated the Morse Bolt will handle double the quantity the Centrifugal will and produce a better flour and cleaner finish. In fact any material in the mill can be handled with more economy and better results than upon any system we know of. The Morse Bolt being under the complete control of the operator is a point in its favor that cannot be over-estimated, and we believe when its merits are more widely known it will supercede the present mode of bolting.

Yours respectfully,

M. C. DOW & CO.

The Knickerbocker Co., Jackson, Mich.**CAREY'S DOUBLE ANCHOR BOLTING CLOTH**

Best in the Market. Every Yard Guaranteed Always up to Standard Count.

SOLID COTTON BELTING. MILL PICKS.**FINE FRENCH BURR & ESOPUS MILLSTONES**BELTING.
PORTABLE MILLS.
SMUT MACHINES.**ELEVATOR BUCKETS,****BRUSH MACHINES, AND
MILL FURNISHINGS GENERALLY.**
Send for Catalogue and Price List.**SAMUEL CAREY, 17 Broadway, NEW YORK.**

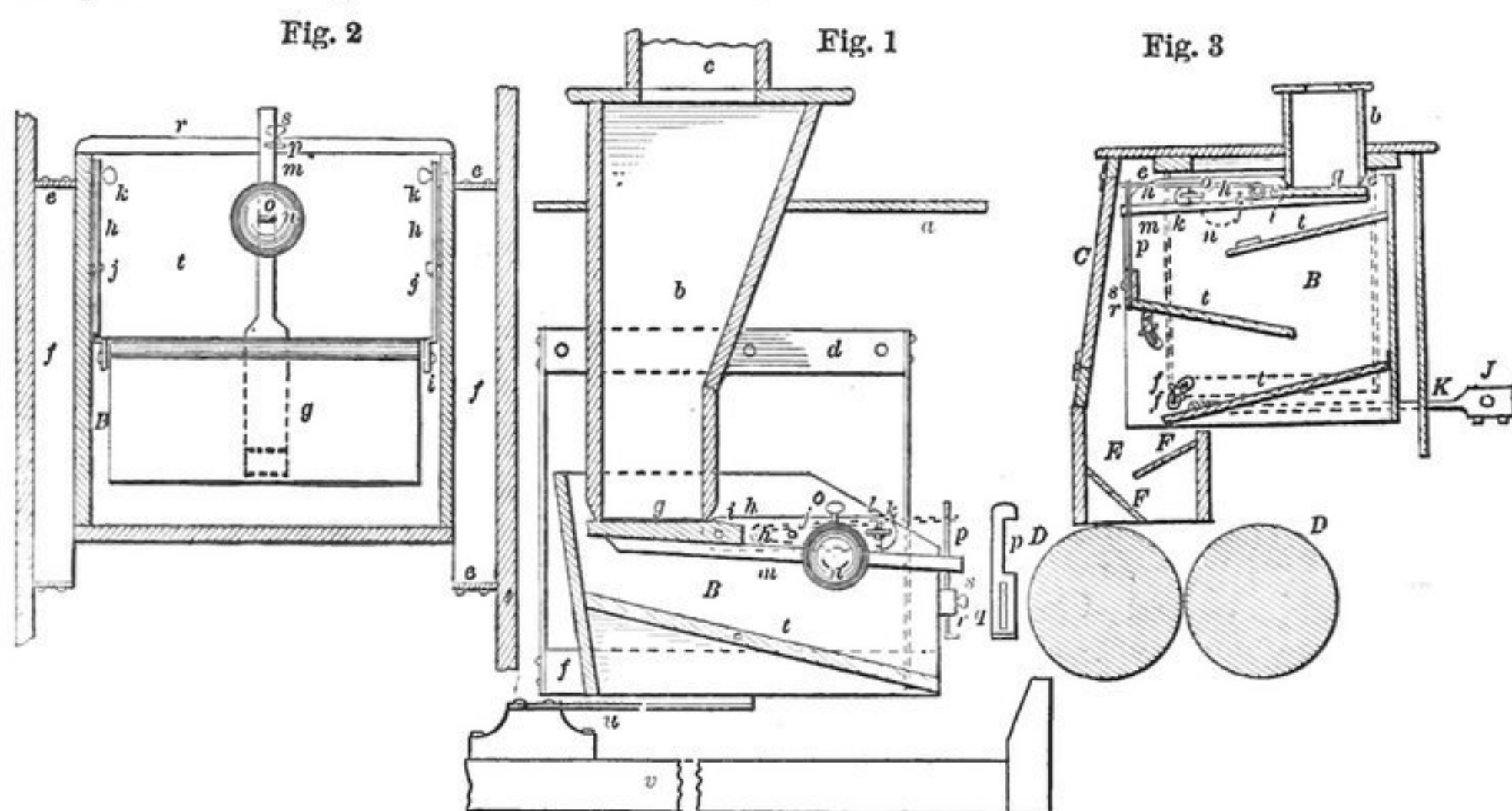
REGISTERED TRADE MARK.



AUTOMATIC SHELF-FEEDER FOR MIDDINGS-PURIFIERS AND ROLLER-MILLS.

Letters Patent No. 298,387, dated May 13, 1884 to William H. Jewell, of Denver, Colorado. The object of this invention is to provide a shelf-feeder for middlings-purifiers, roller and other flouring mills or machinery, wherein a steady and even feed of the material to be acted upon is required, the device herein described being operated either automatically by the weight of a given load or mechanically held and released at given intervals. In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a vertical section of the feed mechanism as adapted to a middlings-purifier. Fig. 2 is a horizontal section on a line just above the level of the shelf, and Fig. 3 is a vertical section of adapted for roller-mills. The letter *a* may designate the top boards of a middlings-purifier, and *b* a hopper or chute suitably arranged in accordance with the requirements of the machine to which it is applied. *d d* are horizontal bars attached to the walls of the purifier at the point of entrance of the

mit the shelf to fall; but in this case each machine will require the almost constant care of an attendant. The shaker *B* may have one or more shelves, *t*, corresponding, if desired, in construction and function with the shelves *b c d* of the patent referred to, or of other approved form. The discharge end of the shaker *B* is open, the bar *r* simply extending across it at that end at a suitable non-interfering distance. The desired shaking motion is imparted to the shaker *B* in a middlings-purifier by connections *u* with its shaking-screen *v*, for example, although it is not necessary to limit the invention to such specified connection for getting a shaking or vibratory movement. In the form of feed mechanism shown in Fig. 3, *b* is the hopper; *B*, the shaker; *C*, the easing inclosing the same, and *D D* a pair of grain-grinding rolls arranged in any of the approved forms. *E* is a spout arranged to deliver the grain to the rolls over distributing shelves *F F*, projecting at an incline from opposite sides of said spout. *t t t* are shelves or boards projecting at inclines from opposite sides of the shaker *B*, and corresponding in construction and function with the shelves *c b* and board *d* of a former patented machine, and similarly equipped, if desired. *J* is a shaft suitably borne by the framing, and driven, as by a belt, from, say, the shaft of the fast roll of the pair of rolls *D D*. This shaft may have a crank or an eccentric, with which the rod or pitman



AUTOMATIC SHELF-FEEDER FOR MIDDINGS-PURIFIERS AND ROLLER-MILLS. PATENT NO. 298,387.

feed mechanism. From the ends of these bars depend spring-straps *e e*, to the lower ends of which are fastened horizontal bars *f*, and these bars support the "shaking frame" *B*, purposely so designated, to indicate its correspondence in essentials to the shaking-frame, substantially as shown, and is covered or closed by a pivoted or hinged shelf *g*. This shelf is hinged or pivoted to arms *h h* at *i*, and said arms are pivoted at *j* to the walls of the shaking-frame, and are held in any given adjustment on their pivots by set screws *k*, extended into the walls of the shaking-frame through slots *l* in said arms, so that the proximate relation of the shelf to the hopper may be varied. The shelf is provided with means for holding it normally up against and closing the discharge end of the hopper, and there is shown such means as an arm, *m*, provided with a movable counterpoise, *n*, held to its adjustment on said arms by a set-screw, *o*, the motion of said shelf being controlled by the engagement of a stop-hook *p* with an arm *m*. This stop-hook has a slot, *q*, and is arranged in a bar, *r*, wherein it is movable, a set-screw, *s*, passing into the bar through the slotted hook, to clamp the hook in any given position. The arm *m* is fast to the shelf *g* and moves with it, its weight being adjusted to permit the shelf to automatically drop when the required quantity of material to be fed has accumulated upon the shelf. Thus this quantity, or the "feed," may be regulated with great nicety. Instead of having the feed automatic, the hook *p* may be used to hold the shelf a given length of time—say for repairs or in running—and be disengaged manually or mechanically to per-

K is connected, and said pitman then connected with the shaker, to impart to it a shaking or vibratory motion: A spring, *h'*, (shown in dotted lines, Fig. 1, and full lines, Fig. 3,) may be substituted for the weight, and the resistance of such spring is governed by the adjustment of the hook *p*, with which it engages. The lowermost shelf *t* of the shaking-frame may be made adjustable at its lower end in several ways to insure uniform distribution of the material to be treated when the relative levels of any of the parts are disturbed. As one illustration of means for effecting this, there is shown in Fig. 3 said shelf *t* provided with a slotted segment, *f'*, held to the side of the shaker by a thumb-nut and bolt, *f''*. As the shelf is thin, by using its hinges as fulcrums its discharge end can be sprung and held by the segment and thumb-nut in any desired position to adapt the feed to the position of the rollers or purifier. The segment and thumb-nut shown on the middle shelf *t* is to vary the inclination of said shelf, which is pivoted near its center. The operation is as follows: The material to be acted upon is feed—may be continuously—into the hopper, and the capacity of the treating mechanism for the particular material being fed first known, the shelf *g* is set by its weight or spring to discharge that known quantity whenever it shall have been fed upon it.

WILHELM & BONNER,
Solicitors of Patents,
Attorneys and Counselors in
Patent Causes.
No. 284 Main St., Buffalo, N. Y.

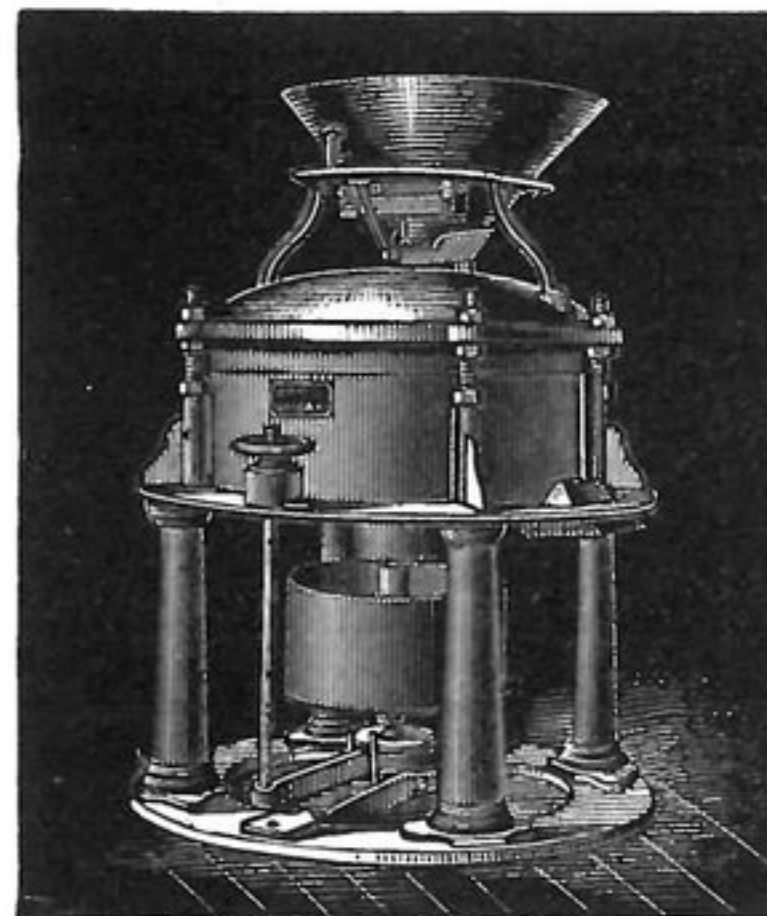
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Address, P. O. BOX 380. UTICA, N. Y.

HEAD LININGS AND COILED BARREL HOOPS.

Our Celebrated Patent Head Linings are straight rounded on their upper edge nail on barrel. They will freely through the square are packed. We can furnish from twelve to seventy-two GOOD Head Lining can



Round Edge Bent Barrel grained from end to end, and crimped or bent ready to not mold, as the air circulates bundles of 250 in which they them any desired length, inches, and as cheap as any be sold.

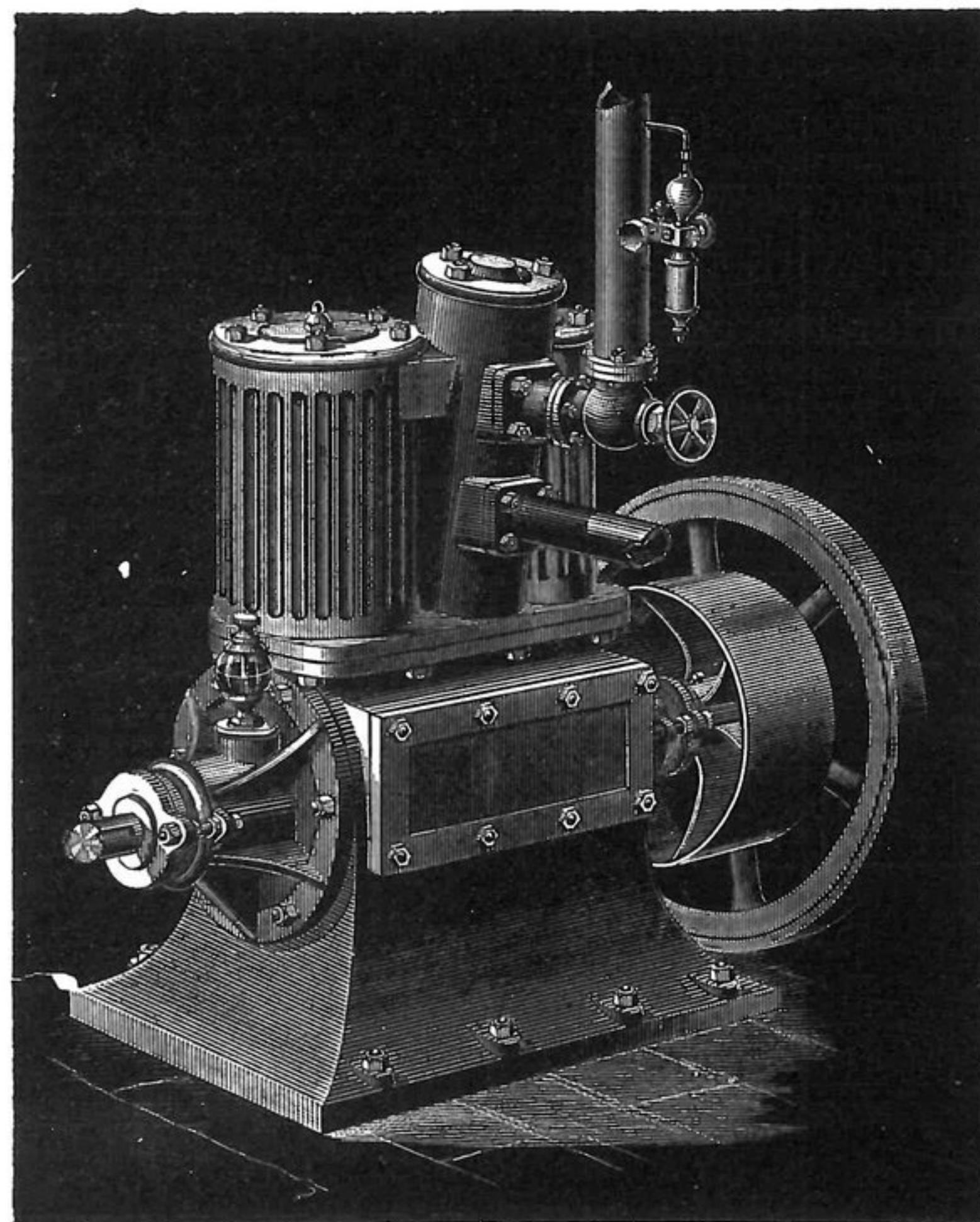
CAN FILL ALL ORDERS AT SIGHT.
REED & SILL COOPERAGE CO.,
DETROIT, MICHIGAN.

The Westinghouse Automatic Engine

REAR VIEW, WITH ONE FLY WHEEL REMOVED.

Over 600 Engines Now in Use.

Average Sales, 1600 H. P. Per Month.



The Westinghouse Automatic Engine has no equal in Sensitivity and Close Regulation, Low Cost of Maintenance, and General Convenience, and in all other essential features of a First-Class Engine it is guaranteed to have no Superior. Occupies the Least Space, and saves Half the Cost of Foundations. All Sizes Built Strictly to Gauge, and Parts Interchangeable. Every Engine Tested to Full Power Before Leaving the Shop.

Our Engines are largely used in Burr and Roller Mills, both as the Sole Power, and as a Relay to Deficient Water Power. Especially Adapted to Coupling Direct to the Jack-Shafts, or to Special Machinery.

Send for Illustrated Circular and Reference List, and State the Horse Power Required.

OUR PRICES ARE MODERATE.

THE WESTINGHOUSE MACHINE CO.

PITTSBURGH, PA.

Address if More Convenient } 94 Liberty Street, New York.
our Following Branch Offices: } 14 S. Canal Street, Chicago.
401 Elm Street, Dallas, Texas.

THE GEO. T. SMITH IMPROVED MIDLINGS PURIFIER.

The Geo. T. Smith Purifier was the first successful Sieve Purifier ever used in this or any other country. The demand for it has steadily increased from the day the first machine was started.

ADAPTED TO ALL SYSTEMS OF MILLING. FIFTEEN SIZES, SUITABLE FOR MILLS OF ALL CAPACITIES.
SINGLE, DOUBLE AND ASPIRATOR MACHINES.

IN THE UNITED STATES
ALONE

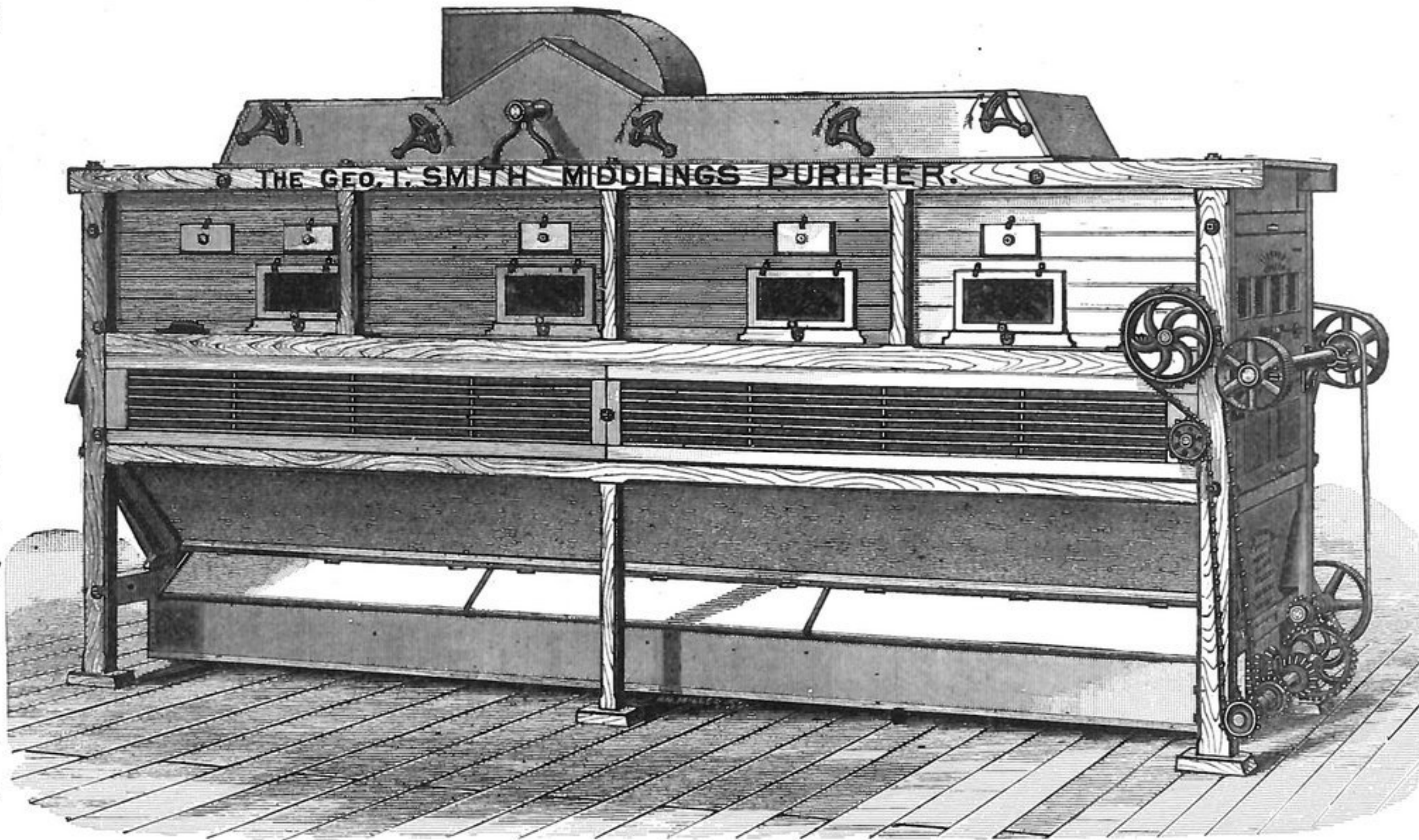
7,000

And More are Now Running.

EXCLUSIVE FEATURES.

Patent Automatic Brush.
Patent Self-Regulating
Feeding Device.
Patent Coil-Spring Ec-
centric Connection.

EASILY ADJUSTED.



IN THE UNITED STATES
ALONE

7,000

And More are Now Running.

EXCLUSIVE FEATURES.

Patented Application of
Graded, Controllable Air
Currents.
Patent Cloth Tightener.
Patent Double Conveyers,
in the Same Horizontal
Plane.

LIGHT RUNNING.

2,500 SOLD IN 1882. The sales for 1883 to date are double what they were for the same months last year. 2,500 SOLD IN 1882.

SPECIAL NOTICE.—We guarantee every owner of a Geo. T. Smith Middlings Purifier absolute immunity from loss by suits for infringement.

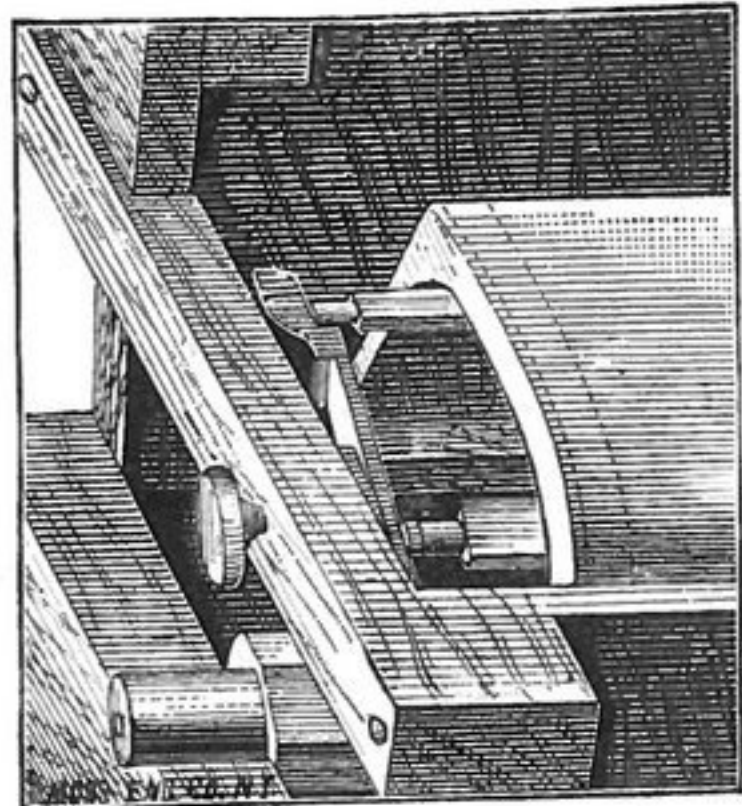
We are giving greater attention than ever before to the mechanical details and material used in the construction of our machines, having substituted **STEEL SHAFTING** for iron, and adopted **HARD WOOD** for frame, and notwithstanding the immense outlay incurred in securing protection under all existing patents, and the cost of constant improvements, our **PRICES REMAIN UNCHANGED**.

Geo. T. Smith Middlings Purifier Co., Jackson, Mich.

MILLS

Parties desiring to sell, buy, or lease mill property should not fail to write us. Our List covers various sections of country, and we have mills at all prices, and can offer some decided Bargains in the West.
GILLSON, BENJAMIN & CO.,
97 Metropolitan Block, CHICAGO, and cor. 3d Ave. and 3d Street, MINNEAPOLIS

FISKE'S BOLTING REGULATOR.



Simple,
Substantial,
Easily Controlled.
Saves Time,
Saves Money,
It is Indispensable.

READ THIS TESTIMONY.

SEND US DOWN FOUR SET MORE.

KENNEDY, N. Y.
J. E. FISKE, ESQ., JAMESTOWN, N. Y.
Dear Sir: You may send us down four set more of your Bolting Regulators, and will see you later for three or five sets more.
Respectfully,
PHILLIPS & THOMAS.
COULD HARDLY GET ALONG WITH-
OUT IT.

CLEVELAND, OHIO.
MR. J. E. FISKE, JAMESTOWN, N. Y.
Dear Sir: Yours of 30th ult. received. It is now over sixty days since we purchased your "Bolting Regulator," and find its work fully up to your recommendation. As we are situated, we could hardly get along without it, and we cheerfully recommend its use to all millers.
Yours truly,
M. C. DOW & CO.

ARE GIVING GOOD SATISFACTION.
NEW CASTLE, PA.
J. E. FISKE, JAMESTOWN, N. Y.
Dear Sir: Yours of 12th to hand, in reply will say so far your Regulators are giving good satisfaction.
Yours truly,
J. C. WILSON & CO., Limited.

PARTICULARLY EFFECTIVE ON SOFT STOCK.
J. E. FISKE, JAMESTOWN, N. Y.
Dear Sir: The three Bolt Regulators bought of you, come fully up to your recommendation, and we find them particularly effective on soft stock.
Yours truly,
GILBERT & JONES.

Your Orders are Respectfully Solicited. Manufactured and Sold Exclusively by

J. E. FISKE, JAMESTOWN, N. Y.

CONSIDER THEM INDISPENSABLE.

J. E. FISKE, JAMESTOWN, N. Y.
Dear Sir: The Bolting Regulators that you put in my mill are doing such good work that I now consider them indispensable, and take pleasure in recommending them to the milling public.
D. H. GRANDIN.

FAR SURPASSES ANY ATTACHMENT
I HAVE EVER SEEN.

SHERMAN FLOURING MILLS, SHERMAN, N. Y.
J. E. FISKE, JAMESTOWN, N. Y.
Sir: I have used your Bolt Regulator for the last three months, and would say that it far surpasses any attachment I have ever seen applied to the reel; simple, easily controlled, and the silk always in condition to do its work. Would not do without it.
Yours truly,
D. C. BLOOMFIELD.

ALL YOU CLAIM FOR IT.

CUYAHOGA FALLS, O.
J. E. FISKE, ESQ., JAMESTOWN, N. Y.
Dear Sir: Replying to yours of 7th, the Bolting Regulator received from you some time ago, does all you claim for it, and gives us entire satisfaction.
Yours truly,
LOESER, CLARK & Co.

BETTER THAN ANY DEVICE WE EVER USED.

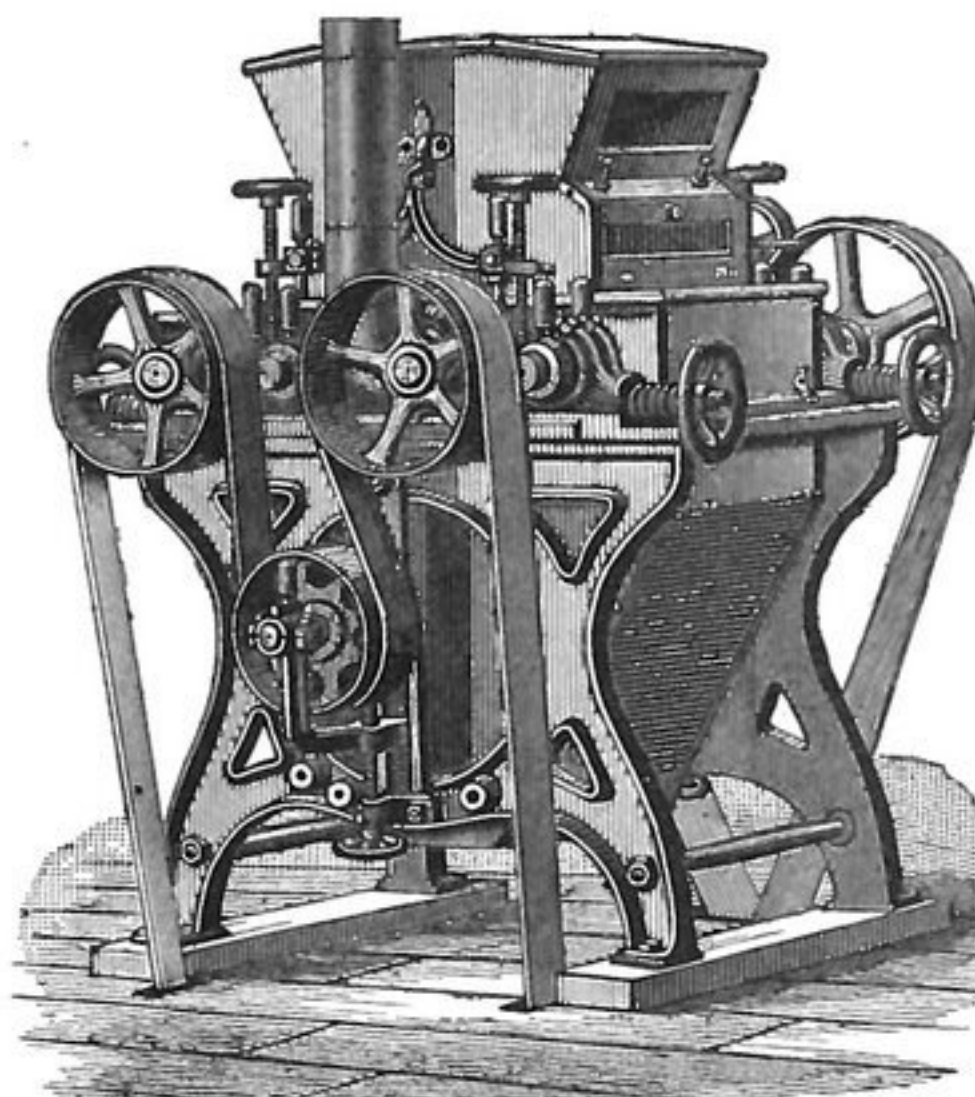
J. E. FISKE, JAMESTOWN, N. Y.
Dear Sir: We have had in use one of your Bolt Regulators for the past year, and find it all you claim for it. It keeps the bolt clean better than any device we ever used.
Yours truly,
WEEKS & JOHNSON.

THE ORIGINAL SIX-INCH ROLLER MILL.

THE BEST ROLL IN THE MARKET

RICKERSON'S

PATENT IMPROVED ROLLER MILL.



Our six by twenty rolls weigh 175 pounds each making 700 pounds to drive in a double set roller mill, as against 1800 pounds in the old style mill; this fact enables us to run with greater speed, with no danger of hot journals, hence our greater capacity. Produces better results, because there is less Pulverizing and Better GRANULATION, the point of contact being much less on a SIX-INCH ROLL than the old system; the STOCK BEING KEPT LARGER and more middlings produced on each reduction. It is a well established fact that the object in gradual reduction milling is to make as large a percentage of middlings as possible, and we claim to make MORE MIDLINGS from a bushel of wheat than ANY OTHER ROLLER MILL, and we are prepared to prove our claim. The MORE MIDLINGS the greater percentage of PATENT FLOUR, and better color of ALL grades. We build the only Roller Mill with **PATENT EXHAUST ATTACHMENT** for taking away all GENERATED HEAT, thus doing away with the GREATEST ANNOYANCE that millers have experienced in running the gradual reduction system, at the same time keeping the stock cooler as it passes

to the Reels and Purifiers, consequently the separations are made more easily. We use nothing but the Ansonia Chilled Iron Roll, with steel journals, ground, and run them entirely with LONG belts. With a feed device for throwing out and in easily, with a leveling device that is positive and perfect, and an adjustment so entirely positive, that feed can be stopped or cut-off, and put on again without readjusting rollers. **WE DO NOT DEPEND UPON THE STOCK TO KEEP OUR ROLLS APART.** We are prepared to furnish plans for our Gradual Reduction system on short notice, and fill orders for our Mills promptly. **We make both Corrugated and Smooth Rolls, Twelve, Fifteen, Eighteen and Twenty Inches Long and Six Inches in Diameter. Prices Sent on Application. Correspondence solicited. Address,**

O. E. BROWN MANUFG. CO.

GRAND RAPIDS, MICHIGAN.

SCIENTIFIC AND MECHANICAL

LONG AND SHORT STEAM BOILERS.

SHORT boilers are found to do more work, in proportion, writes Prof. Smith, in the *Age of Steel*, than long ones. This has been confirmed by experiments on the rapidity of evaporation by Charles Wye Williams and others. Also short boilers strain less than long ones, and are therefore less liable to need repair. A length of 30 feet should be the maximum, while with regard to the minimum some Lancashire boilers, to suit the particular position, have been made as short as 21 feet, and found to work well though the fittings become rather crowded. The length recommended and now generally adopted is 27 feet. The diameter of the boiler is governed by the size of the furnaces, which should not be less than two feet nine inches, to admit of a suitable thickness of fire, and afford convenience in stoking. Thick fires are more economical than thin ones. The space between the two furnace tubes should not be less than five inches, and that between the furnace tubes and side of the shell four inches, in order to afford convenient space for cleaning and free circulation of the water, as well as to give sufficient width of end plate for enabling it to yield to the expansion and contraction of the furnace tubes. With this width of water space it will be found that furnace tubes having a diameter of two feet nine inches require a shell of seven feet, which will afford a headway of about two feet nine inches from the crown of the shell. A furnace three feet in diameter gives room for a better fire than one two feet nine inches, but it requires a shell seven feet six inches in diameter. For high pressure the smaller diameter of seven feet is generally preferred, and has come to be adopted as a standard size for mill boilers throughout Lancashire, though one of seven feet six inches makes a good boiler and gives greater horse-power per foot of frontage than one of seven feet diameter. The diameters both of the shell and of the furnace tubes are measured internally, that of the shell being taken at the inner ring of the plating.

THE FUEL COST OF HIGH SPEED.

Some experiments have been made lately upon the Bound Brook route to ascertain the difference in the consumption of coal between an express train running on schedule time and the same train run at a very low speed, but otherwise under the same conditions, the same five cars and precisely similar engines being used. The trains ran in each case from Philadelphia to Bound Brook and back, a distance of 119 miles, we are told by the *Boston Daily Advertiser*. The slow trip was made in nine hours and twenty-three minutes, 4420 pounds of coal being consumed. The train stopped at the same places as the regular express trains, the only unusual feature of the trip being the funeral pace, averaging a little over 12½ miles an hour. When running on schedule time the consumption was 6725 pounds, agreeing closely with the usual consumption on this route with the regular five car express trains. The saving effected in coal by running the train at a very slow pace was 2305 pounds. The percentage of saving may be expressed in two ways; as compared with the consumption at the normal express speed, the slow speed shows a saving of 34.2 per cent., while the consumption at the high speed shows an increase over that at the low speed of 52.1 per cent.

* * Speaking of the fire hazard in flouring mills and the great mistakes made

by many millers in placing costly new machinery in dangerously constructed buildings, the *Millwright and Engineer* advises as follows: "We have for a long time been of the opinion that the builder of mills should stand in the same relation to the mills he builds that an architect does to the buildings he designs, and that he should be the engineer and architect of the mill, unhampered by any connection with the manufactures of special machinery, or forced to get his work done by any particular firm. Let there be competition, both in merit and price between the machines to be employed, and competition in plans if desired, but when the millowner has selected his milling engineer and approved his designs, let him not be hampered in cost, so that he will be able to carry out the precautions he deems necessary for the safety of the mill, or use the machinery requisite for the success of the system he employs."

* * The annual loss by fire in the United States is about \$100,000,000. It is about twice as much per inhabitant as the fire loss of Great Britain, four times as much as that of France, and six times that of Germany. At the average rate of production it would require the constant labor of about 400,000 men to replace it. The loss is nearly as much as the amount collected on internal revenue, and one-third more than the annual interest of the public debt. The amount of premiums collected by insurance companies is considerably less than the loss, so that some insurance companies must fail every year. It is estimated that \$3 per annum is collected for every man, woman, and child in the United States to pay for careless construction and negligence in guarding against the dangers of fire.

* * It is not generally known, but it is said to be a fact, nevertheless, says the *Electrical Review*, that out of the nine cables that now stretch from continent to continent under the Atlantic, only three are in working order, and that of these three one only works one way. This last statement seems a singular one, and we should hardly credit it did it not come to us from excellent authority. The fact is that the life of a submarine cable is limited at best, and that from eleven to fourteen years generally uses up the best of them. The idea once prevalent that a cable once safely down was good for all time, has had to give way before inexorable facts.

* * The mountains of Gellivara, in the most northern part of Sweden, consist of pure magnetic iron in immense layers of several hundred feet thickness upon the surface of the ground. One of the peaks alone is supposed to contain 280,000,000 tons. They are situated near large forests furnishing fuel, and are less than a hundred miles from the Atlantic. It is intended to build a railroad around the mountains to a port, Ofoten, on the coast, and it is estimated that the iron ore can be delivered on the cars at the low price of two shillings per ton.

* * A French inventor, who has patented a machine for the use of concentrated solar rays as a general motive power, has set up three of his machines in Algeria for the French government. He is now carrying on experiments at the Island of Porquerolles, near Hyeres, in France, where he is thrashing Indian corn and raising water by the action of the sun's rays.

* * The International Forestry Exhibition will present, side by side with the pines of Scotland, a large eight feet section of one of the gigantic sequoias of the Yosemite Valley.

* * Preparations are being made to put

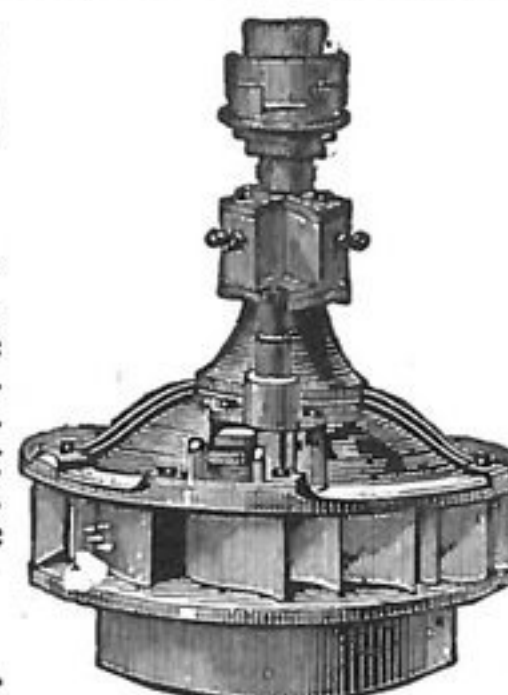
on a line of ocean steamers between Victoria, B. C., and China and Japan upon the completion of the Canada Pacific railway.

MERCER'S

RELIABLE
Turbine Water Wheel.

This wheel is acknowledged one of the best on the market. Has valuable improvements in the construction which is commanding the attention of buyers. Send for catalogue and price list. **T. B. MERCER,**

WEST CHESTER,
CHESTER CO., PA.



BURNHAM'S IMPROVED Standard Turbine

IS THE
Best constructed and finished,
gives better Percentage, more
Power, and is sold for less
money, per horse power, than
any other Turbine in the world.
New Pamphlet sent free by

Burnham Bros., York, Pa.

DeLOACH WATER WHEELS

From 2-10 to 2,000 horse power.
Simplest, most durable, best
gate for holding the water,
fully equal in percentage of
power to any wheel made, and
price places it in reach of all.
Send for illustrated catalogue.
A. A. DeLOACH & BRO.,
Manufacturers, also of Milling
Machinery, Atlanta, Ga.
Mention this paper.

LESNER'S IMPROVED TURBINE.

Simple,
Durable,
Strong.
Gate Works
EASILY
—AND—
RAPIDLY.
PERFECT
Satisfaction
—IS—
GUARANTEED.

W. B. WEMPLE'S SONS, FULTONVILLE, N. Y.

LEFFEL'S WATER WHEEL

MADE BY JAMES LEFFEL & CO.

The "OLD RELIABLE"

with improvements, making it the

**MOST PERFECT TURBINE
NOW IN USE.**

Comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads used in this Country. Our new Illustrated Book sent free to those owning water power.

Those improving water power should not fail to write us for New Prices before buying elsewhere. New Shops and New Machinery are provided for making this wheel. Address

JAMES LEFFEL & CO., SPRINGFIELD, OHIO, AND
110 LIBERTY STREET, N. Y. CITY.

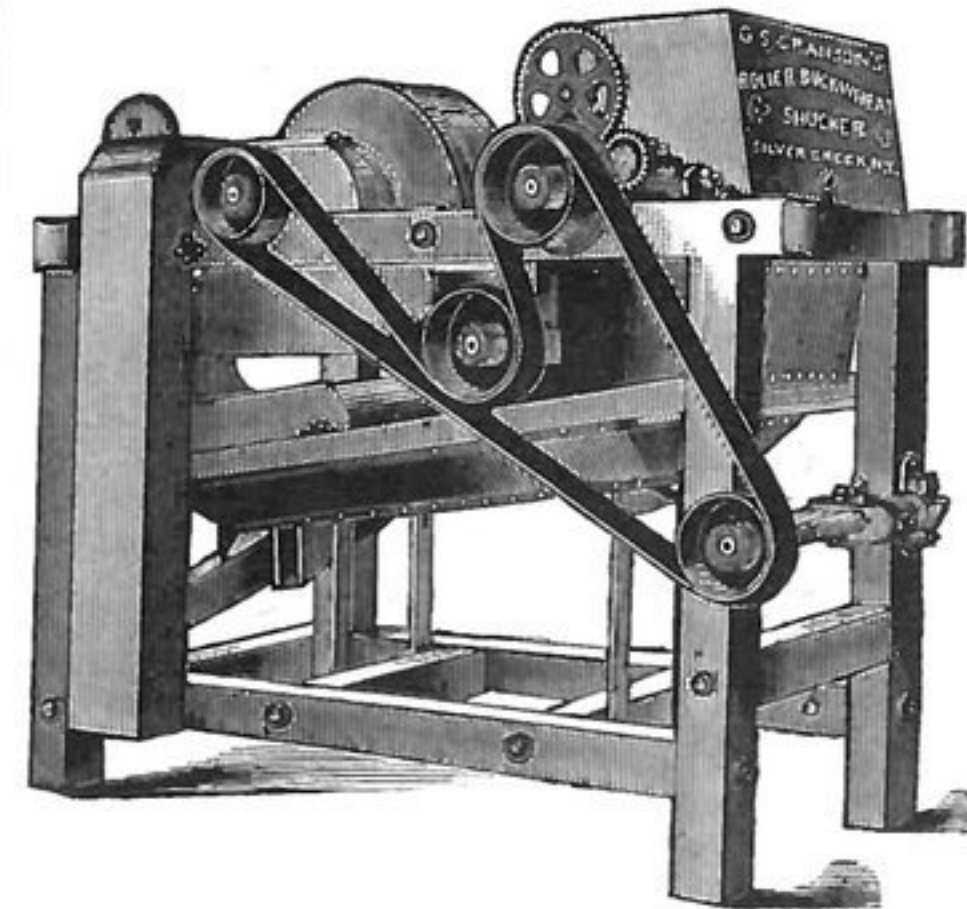
BUCKWHEAT MILLERS

WILL FIND IT TO THEIR DECIDED
ADVANTAGE TO INVESTIGATE THE
CONCEDED MERITS OF

**CRANSON'S SILVER CREEK
ROLLER BUCKWHEAT SHUCKER**

ITS SUCCESS IS BEYOND QUESTION.
ITS VALUE HAS BEEN DEMONSTRATED
IN MORE THAN 800 CASES. IT
IS THE ONLY PERFECT BUCKWHEAT
SHUCKER IN THE WORLD.

G. S. CRANSON & SON, PROPRIETORS SILVER CREEK, N. Y.



Improved Success

Percentage.

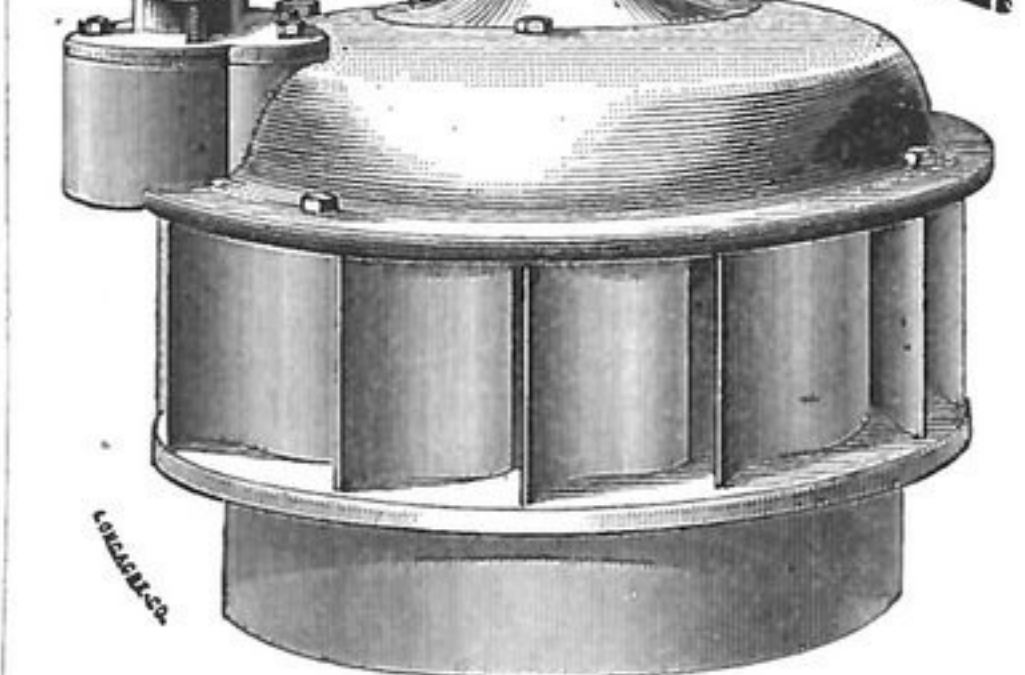
Full Gate.....86.29
¾ Gate.....86.07
¾ Gate.....81.90

This Wheel is Durable
and Cheap.

Send for Pamphlet to
**S. MORGAN SMITH,
YORK, PA.**



ALCOTT'S IMPROVED TURBINE WATER WHEEL.



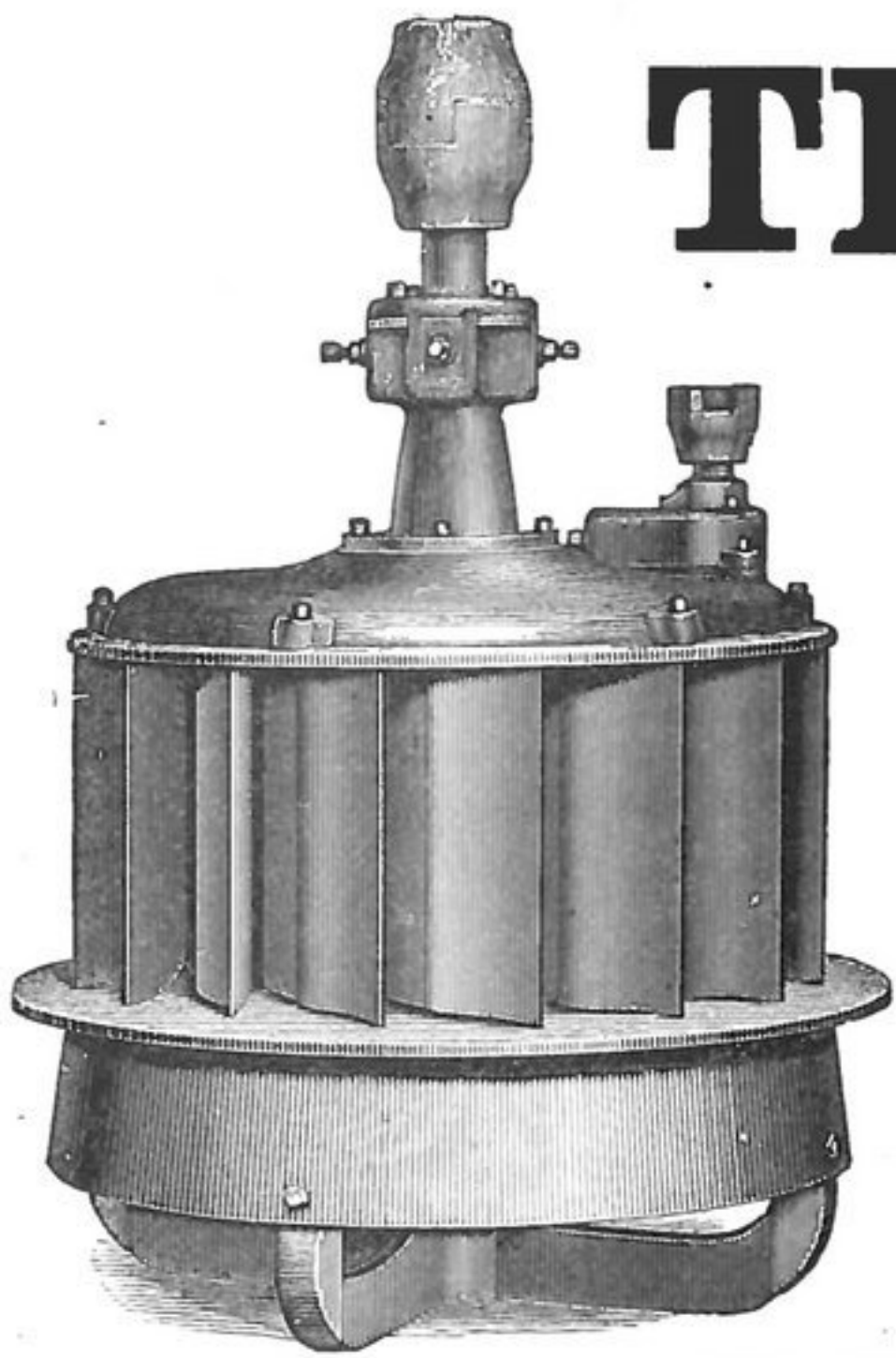
This Wheel gives high results, and
is acknowledged the best, most practical
and efficient Turbine made.
For Simplicity, Durability, and
Tightness of Gate it has no equal.

State requirements and send for Catalogue to
**T. C. ALCOTT & SON,
MOUNT HOLLY, N. J.**

RIVAL STEAM PUMPS

THE
CHEAPEST
AND THE
BEST
FOR
HOT & COLD
WATER.
\$35.00
AND
UPWARDS.
SEND FOR
CATALOGUE

15
SIZES
MANUFACTURED
BY
JOHN H. MCGOWAN & CO.
CINCINNATI



THE VICTOR TURBINE

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as Shown in the Following Tests at Holyoke Testing Flume:

Size Wheel.	Head in Ft.	Horse Power.	Per Cent Useful Effect
15-inch,	18.06	30.17	.8932
17½ in.,	17.96	36.35	.8930
20-inch,	18.21	49.00	.8532
25-inch,	17.90	68.62	.8584
30-inch,	11.65	52.54	.8676

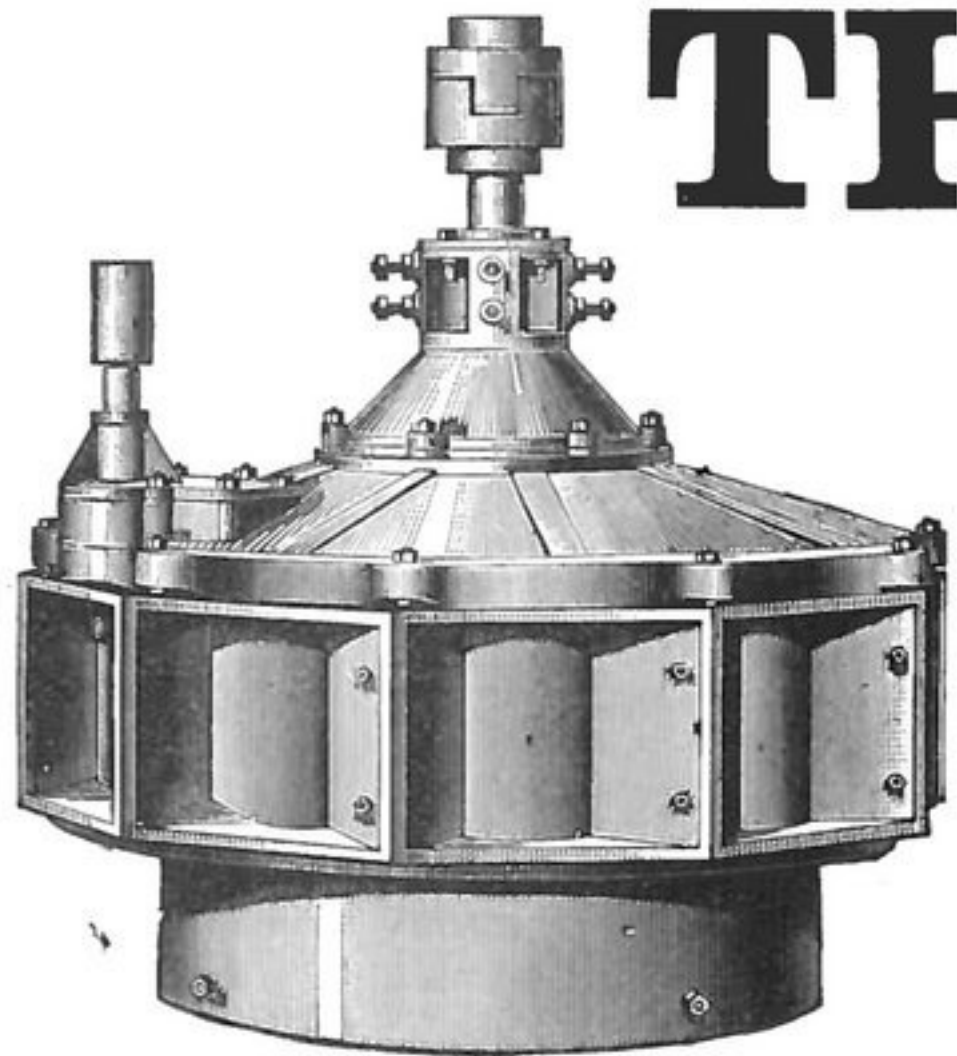
WITH PROPORTIONATELY HIGH EFFICIENCY AT PART-GATE.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably commend it to the attention of ALL discriminating purchasers. These Wheels are of very Superior Workmanship and Finish, and of the Best Material. We also continue to manufacture and sell at very low prices the

ECLIPSE DOUBLE TURBINE,

So long and favorably known. State your requirements, and send for Catalogue to the

STILWELL & BIERCE MANUFACTURING CO.,
DAYTON, OHIO U. S. A.



THE EUREKA TURBINE

Celebrated as the Best Part-Gate Wheel Ever Built.

Absolutely Unequalled in Efficiency, as Shown by The Accompanying Table.

WE PUBLISH OUR PART-GATE FIGURES.

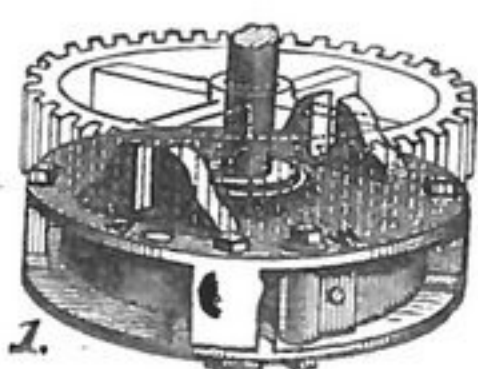
OTHERS SIGNIFICANTLY OMIT THEM.

No Other Turbine Ever Approached the Above Percentages at Part-Gate. For Catalogue and Information Address,

W. H. BARBER & CO., ENGINEERS AND MACHINISTS, ALLENTOWN, PA., U. S. A.

From the Records of Actual Tests at the Holyoke, Mass., Testing Flume:

	PERCENTAGE OF EFFICIENCY.			
	Full Gate.	¾ Water.	½ Water.	¼ Water.
24 Inch Wheel.....	.8436	.8416	.8202	.8002
24 Inch Wheel.....	.8206	.7910	.7700	.7003
24 Inch Wheel.....	.8078	.7578	.7275	.6796
30 Inch Wheel.....	.8000	.8011	.7814	.6850



EUREKA COIL SPRING

Warranted to Prevent Backlash. Over 1,000 in use. Equilibrium Driving Pulley Prevents Side Pull on Mill Spindle.
JOHN A. HAFNER,
PITTSBURGH, PEN.

*** THE INK ***
WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

The CUMMER ENGINE

Was awarded the gold medal at the Cincinnati Exposition and a special prize for extraordinary merit, also the highest medal at Louisville for the best Automatic Engine. Send for 150-page catalogue No. 9. Address,

The Cummer Engine Co., Cleveland, O.

POOLE & HUNT'S LEFFEL TURBINE WATER WHEEL

Made of Best Materials, and in the Best Style of Workmanship.

MACHINE-MOLDED MILL GEARING

From 1 to 20 feet diameter, of any desired face or pitch, moulded by our own Special Machinery.

SHAFTING, PULLEYS AND HANGERS

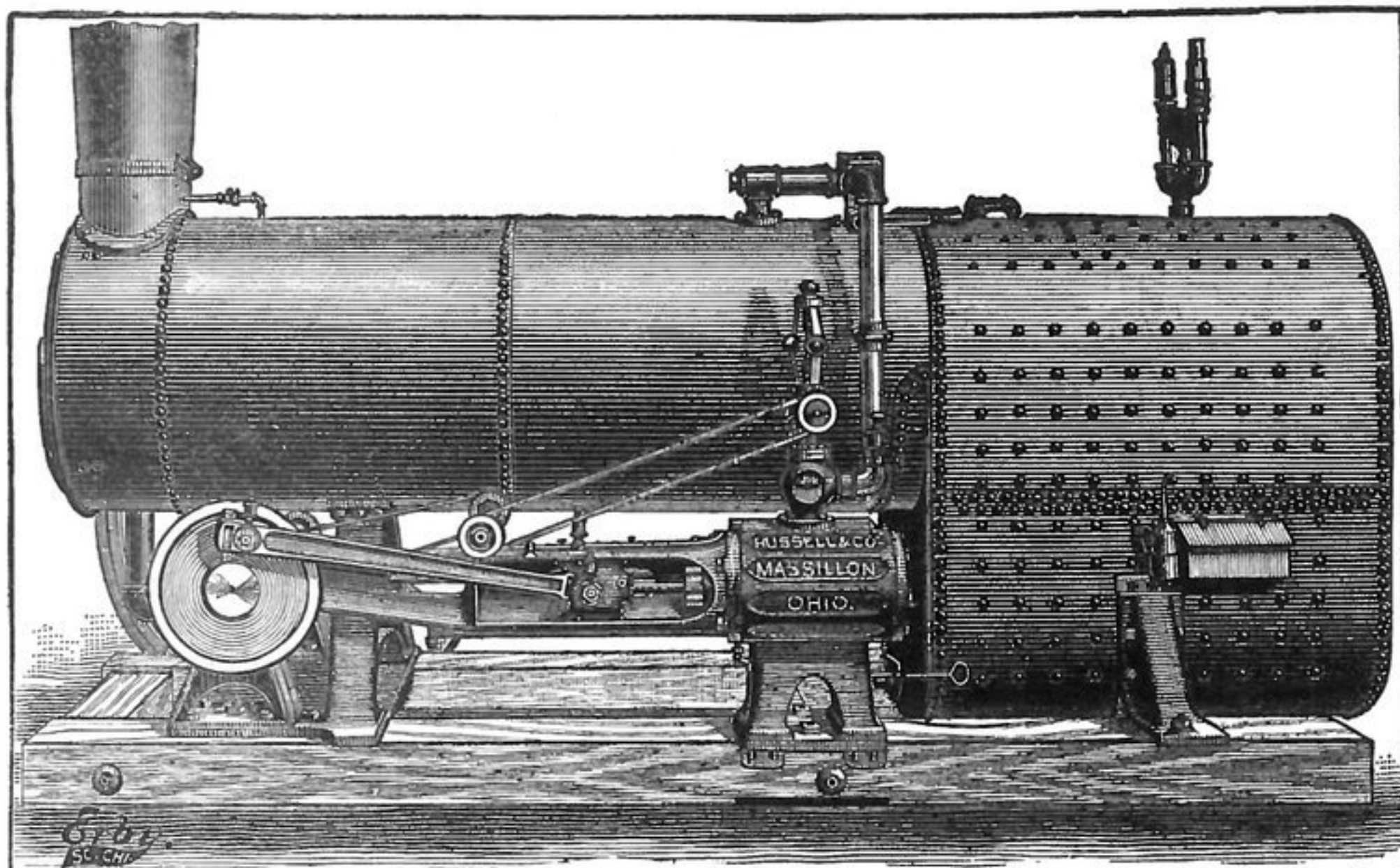
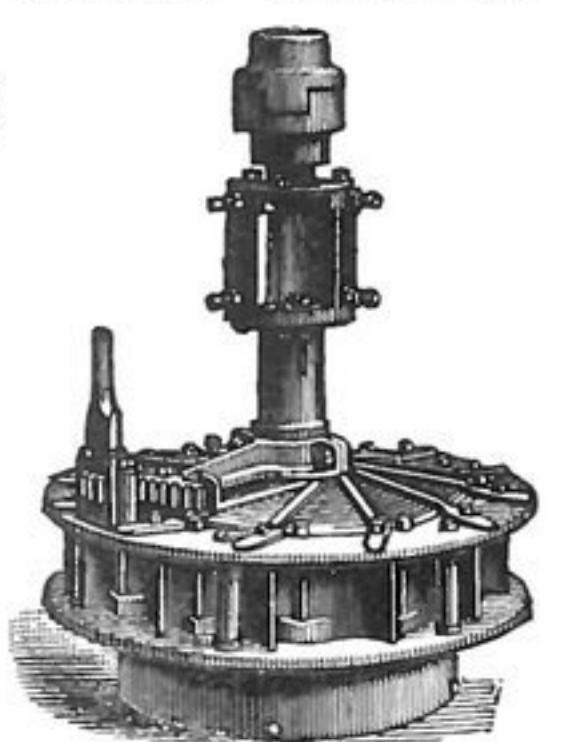
Of the Latest and Most Improved Designs.

Engines, Boilers,

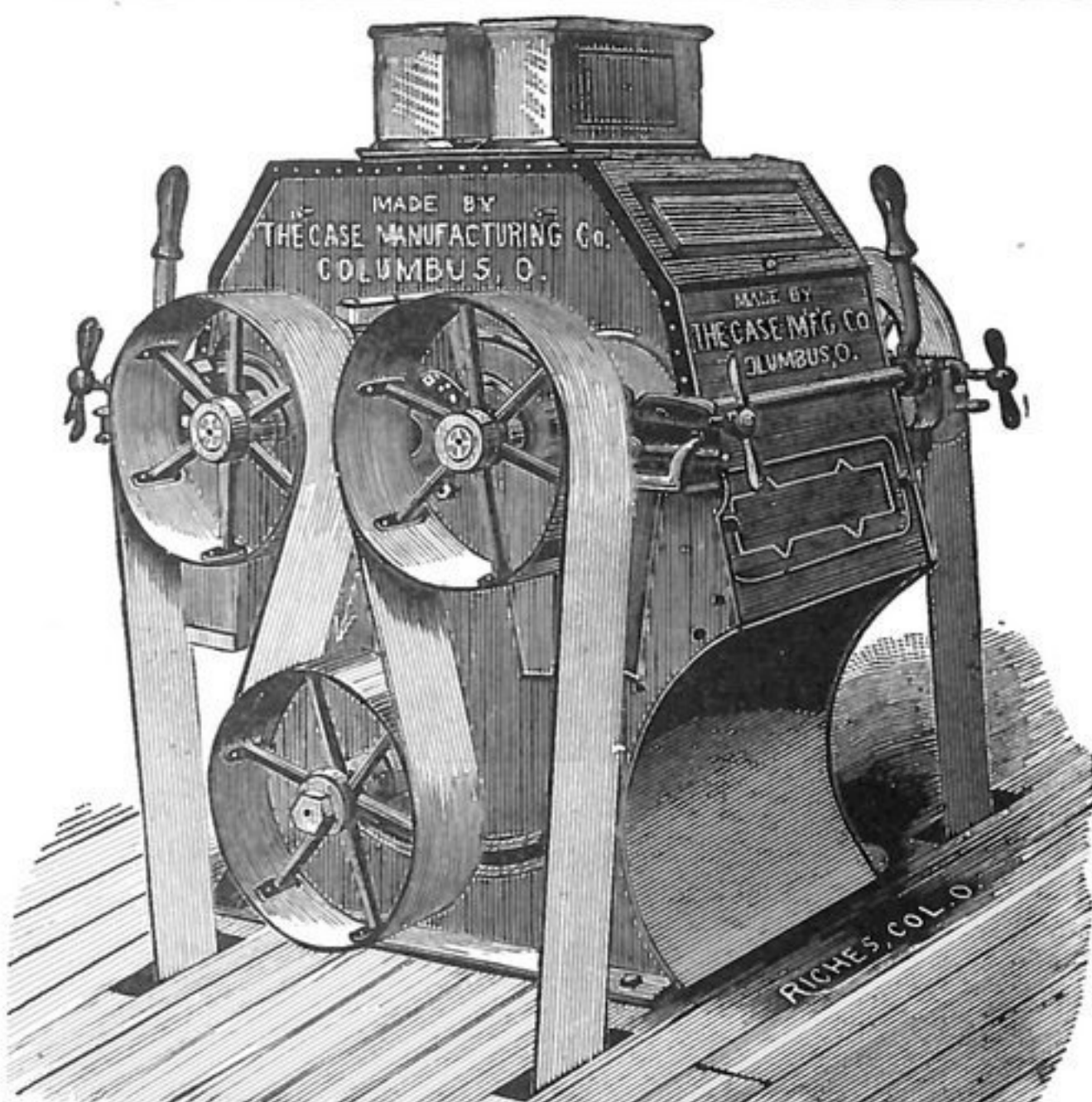
Mixers and General Outfit for Fertilizer Works.

Special Attention given to Heavy Gearing. Shipping Facilities the Best in All Directions.

POOLE & HUNT, BALTIMORE, MD.



THE RUSSELL ENGINES. Nine Sizes, Six Styles. More in Preparation. Everywhere considered to be the STANDARD. New Illustrated Catalogue sent free on application. Address, naming this paper. **RUSSELL & CO., Massillon, O.**



"BISMARCK."

WE HAVE SOMETHING OF IMPORTANCE TO SAY.

It is if you want Full Gradual Reduction we can save you money, and give you a good mill. If you only want a partial fix up we can do you lots o' good with a few machines and small outlay. Address,

CASE MANUFACTURING CO.
COLUMBUS, OHIO.

W. E. CATLIN & COMPANY, AGENTS, NO. 48 SOUTH CANAL STREET, - - - - CHICAGO, ILLINOIS.



Notes from the Mills.

Carthage, Minn., is to have a 100-barrel flouring mill.

Over eighty thousand tons of Oregon flour have gone to England this spring it is said.

B. F. Gump, Chicago, Ill., has ordered four pair Allis rolls, in Gray's noiseless belt frames.

P. L. Terry & Co., Roanoke, Va., are building a roller-process flour mill of 125 barrels daily capacity.

Miller Bros. & Mitchell, Montreal, Canada, have ordered a Gray's noiseless belt roller mill for one of their customers.

Crow & Williams, Oakland City, Ind., are putting in a No. 1 single purifier furnished by the Case Mfg. Co., Columbus, O.

J. W. Cleaver, Caro, Mich., has ordered two pair rolls with patent automatic feed, from The Case Mfg. Co., Columbus, O.

Benj. Worley, proprietor of the "Olympia Mills," Gatesville, Coryell county, Tex., intends to put in rolls the coming summer.

The Case Mfg. Co., Columbus, O., are furnishing S. A. Keeley, Lewisville, Tex., with breaks, rolls, purifiers, scalpers, centrifugal reels, &c.

Breaks, purifiers, scalpers, etc., are being furnished by the Case Mfg. Co., Columbus, O., for the mill of J. H. Scharman, Rock Mills, Ala.

An order for one No. 1 double purifier has been received by the Case Mfg. Co., Columbus, O., for the mill of Henry Reinhart, Wall Lake, Iowa.

The Williams & Orton Mfg. Co., Sterling, Ill., have ordered three pair rolls from The Case Mfg. Co., Columbus, O., to be shipped to Kansas City, Mo.

The mills of Morland, Hull & Co., Dublin, Mo., are to receive three pairs of rolls with patent automatic feed, from the Case Mfg. Co., Columbus, Ohio.

The Sac City Roller Mill Co., Sac City, Iowa, have ordered one pair rolls, with patent automatic feed. The Case Mfg. Co., Columbus, O., have the order.

An additional order from Thos. Robinson & Son, Rochdale, England, for five sets of rolls has lately been received by The Case Mfg. Co., Columbus, O.

W. P. Hambaugh, Ringold, Tenn., has lately received two additional pairs of rolls with patent automatic feed from The Case Mfg. Co., Columbus, O.

Carter & Emmons, of Celina, Tenn., who met with the loss of a fine flouring mill last fall, have contracted for a 75-barrel roller mill outfit of improved style.

The Case Mfg. Co., Columbus, O., have lately furnished Wm. Craig, New Castle, Ind., with a "Little Giant" break machine and scalper making three separations.

Hales & Ault, Elizabeth, Pa., have been furnished with a line of breaks, rolls, purifiers, scalpers, centrifugal reels, &c., by The Case Mfg. Co., Columbus, O.

Eli Atherholt, Brookfield, Pa., is making some changes in his mill and has ordered two pair rolls with patent automatic feed from The Case Mfg. Co., Columbus, O.

M. S. Fisher, Burnham, Texas, has ordered fourteen pairs of Allis rolls in Gray's noiseless belt frames, and special machinery to put the mill on the full roller system.

Henry Schnier, Mt. Vernon, Ind., is putting in a three roller break machine and a scalping reel making three separations, furnished by The Case Mfg. Co., Columbus, O.

Hawkeye Milling Co., Irving, Pa., have bought ten pairs Allis rolls in Gray's noiseless belt frames and full outfit of machinery necessary to remodel the mill to the roller system.

Dr. J. H. McGrew, of Shelbyville, Tenn., is remodeling his mill to the roller system with machinery and plans furnished by Nordyke & Marmon Co., of Indianapolis, Ind.

C. W. Roop, of Tazewell, Tenn., is putting up a mill outfit and engine for a milling firm of that county and the machinery was made by Nordyke & Marmon Co., of Indianapolis, Ind.

J. M. & H. C. Allen, Grafton, Ill., have given an order for one additional No. 1 double purifier, to replace one of another make. The Case Mfg. Co., Columbus, Ohio, have the order.

A Red River valley correspondent says that wheat seeding in that region is practically finished

and that the crop prospect is even better than at this date in either of the last four years.

An improved millstone flouring outfit was recently shipped from the manufactory of Nordyke & Marmon Co., of Indianapolis, Ind., to Don Francisco Carbonaire, of Las Curcas, Mexico.

L. S. Brott & Bro., of Mayfield, O., are building a 50-barrel roller mill driven by steam, and their entire outfit is under construction at the works of Nordyke & Marmon Co., of Indianapolis, Ind.

Joshua Simons, McComb, Ohio, has contracted with Allis & Co., for the machinery to remodel his mill, including a No. 2 four break machine, six pairs Allis rolls in Gray's noiseless frames, etc.

The manufacturers of mill machinery are having quite a boom in business at present. Nordyke & Marmon Co., of Indianapolis, Ind., with a force of 400 men, started upon their night run April 15.

Montreal shippers complain that though they offer to take grain to Europe as ballast, it is not to be had, the action of New York state in making tolls free on the Erie canal, calling all such freights in that direction.

The foreign trade of Nordyke & Marmon Co., of Indianapolis, Ind., was increased last month by an order from Pedro Enquicia, successor of Hacienda de la Parral, Mexico, for a large water power flouring outfit.

The Case Mfg. Co., Columbus, O., have been awarded the contract of B. S. Edwards & Co., Chetopa, Kan., for a full line of breaks, rolls, purifiers, scalpers, &c., for a full gradual reduction mill on the "Case" system.

McCaffrey & Co., Augusta, Wis., have contracted with Messrs. Allis & Co., for a No. 2 four break reduction machine, four pair Allis rolls in Gray's noiseless belt frames, and machinery to remodel the mill to the roller system.

J. E. Wilson, Hamburg, Iowa, has ordered eight pair Allis rolls in Gray's noiseless belt frames, together with necessary machinery to remodel the mill of Schminkes & Reiber, of Nebraska City, Neb., to the roller system.

The roller system for grinding corn and rye is being introduced into the 28,000 gallons daily capacity distillery of the Enterprise Distillery Co., of Pekin, Ill., by Nordyke & Marmon Co., of Indianapolis, who make all the machinery.

Mr. W. S. Tingle, of Whitewood, N. W. T., is erecting a large grist-mill on the banks of the Pipestone Creek, about ten miles south of that town. The machinery has already arrived and the mill is expected to be in operation in time for the fall trade.

For various mills in San Francisco, and on the Pacific coast, Messrs. Allis & Co., of Milwaukee, have received orders, through their branch house at San Francisco, Mr. J. R. Cross, manager, for sixty-four pairs of Allis rolls in Gray's noiseless belt frames.

When the panic occurred last week the Minneapolis Millers' Association found money tightening up so fast that they ordered their agents to stop buying wheat. This created considerable consternation, but matters have so quieted down that buying has resumed.

J. M. Boyd & Son, Hillsboro, Ohio, have contracted with Allis & Co. for the entire outfit for their new mill, including fourteen pair Allis rolls in Gray's noiseless belt frame, 12x36 Reynolds-Corliss engine, etc. When completed they will have a very good mill.

The crop reports from various sections in the James river valley, Dak., are of the most encouraging order. Wheat is coming up nicely and is "stooping out" in splendid shape. Vegetation of all kinds indicates a substantial start, and large yields may be anticipated.

H. O. Hambaugh, New Providence, Tenn., has concluded not to be behind the times, and has placed his order with The Case Mfg. Co., Columbus, O., for a complete outfit of breaks, rolls, purifiers, scalping reels, centrifugals, &c., for a full gradual reduction mill on the Case system.

The grist mill belonging to the Hudson's Bay Company, at Prince Albert, has been totally destroyed by fire. One thousand bushels of wheat stored in the mill were also destroyed. The total loss is estimated at \$40,000. We understand that it is the intention of the company to proceed at once with reconstruction.

Farmers in the southern part of Minnesota speak of the grain coming up sooner this season after sowing, than they ever remember of its doing before. They say it must be on account of the ground being in such a fine condition when seeded as they do not remember of ever seeing the ground in better shape when the seeding was done.

According to the Land Commissioner of the Manitoba railway, there are in the Red river valley of Minnesota, thirty-three farms containing

more than two sections of land, and in which more than six hundred acres are under cultivation. The aggregate area embraced by these farms is 171,195 acres, or an average of over 5,187 acres each.

A terrible hail, rain, and wind storm passed through White county, Ark., on May 12. The damage to the fruit and vegetable crops is estimated at from \$10,000 to \$40,000. Some hailstones were eight inches in circumference. A short distance south of the town of Searcy, hailstones were picked up that measured twenty inches.

The Phoenix Mill Company of Davenport, Iowa, has ordered a 20x48 Reynolds-Corliss engine, and also a Reynolds heater. The company will erect a new stack, and put in a new forty-eight-inch by fourteen-foot boiler, resetting its other three at the same time, and also expects to overhaul its mill so as to be ready to start up by the middle of July with a daily capacity of 350 barrels of flour.

The Eisenmeyar Company, Little Rock, Ark., flour mills will rebuild, adding three stories and enlarge boiler house and put in 175 horse power boiler, and equip the mill for roller process by adding 9x24 Odell rollers, four Smith purifiers and ten new bolting reels. This company received a medal at the Centennial for "the only flour that came up to the highest standard of strength and color."

The boiler in W. C. Stout's grist-mill, on Petit Grau Creek, at Lewisburg, Ark., exploded May 19. Frank Weaver, engineer, and Capt. A. B. Thompson were instantly killed, the body of the latter being thrown one hundred feet, denuded of every particle of clothing. An 8-year-old son of Mr. Weaver has since died from his injuries. Ben Howard was also fatally injured, and E. C. Hopkins was severely scalded.

The Lechner Mfg. Co., Columbus, O., have recently made large shipments of their roller detachable chain elevators, conveyors, and driving belts, to Wisconsin, Pennsylvania and New York. Their chains are rapidly coming into general use throughout the country. Owing to its peculiar construction, it has great strength and is very durable. Parties needing anything in their line will do well to correspond with them.

Among those who are adding the late improvements to their mills may be mentioned; Quante & Bro., Metropolis, Ill.; O. Furnas, Edinburg, Ind.; E. M. Beach, Osborne, Kan.; J. B. Mills, Camargo, Ill.; Rabbeth & Brownell, Hopkinsville, Ky.; J. M. Boyd & Son, Hillsboro, O.; W. H. Patterson, Smithville, Mo.; J. M. Diehl & Bro., Memphis, Ind.; Wm. Parkhill, Vanderbilt, Pa.; Solomon Keiser, Scottdale, Pa.; J. F. Sisson, Chamberlain, Dak.; Colton Bros., Bellefontaine, O.; D. Gratz, Montpelier, O.; J. M. Diehl's Sons, Scribner, Neb.; A. C. Burnett, Maquon, Ill.; W. H. Singer, Neogo, Ill., all purchasing their outfits of Nordyke & Marmon Co., of Indianapolis, Ind.

A special of May 21 to the St. Louis *Globe Democrat* from Chicago, states that South Town Assessor Drake says he has been informed by the gentlemen appointed to represent the county in the present assessment that grain in elevators is subject to assessment, and the elevator proprietors may be taxed for it. Mr. Drake says the tax can not be levied on the warehousemen, and that practically the grain is taxed already, as it is principally carried and owned by bankers and Board of Trade men, all of whom are assessed. He says that when he went into the office the Board of Trade was assessed \$50,000, while now it is over \$1,000,000. Mr. Drake thinks it possible to trace the ownership of provisions and make the assessments, but that the owners will probably be found to have been assessed for the property.

"Oregon," says the San Francisco *Commercial Bulletin*, "continues to trade with us to a very considerable extent. The regular steamers ply with great regularity, bringing to us full cargoes of wheat, flour, oats, hides, tallow, salmon, etc., and taking from us in return all kinds of groceries, sugar, coffee, tea, etc., besides a vast quantity of fruits and vegetables, butter, cheese and provisions generally. No doubt much of Oregon wool, salmon, etc., will be sent directly to the east by the Northern Pacific Railroad. Nevertheless, it is very clear that this northern and north-western trade of Oregon, Washington Territory, etc., is not to be wrested from us without a struggle. This reciprocity trade with our northern sisters is too vast to be suddenly surrendered, and the lumber trade of the Puget Sound is well anchored to California, being largely controlled by her capitalists."

Rush & Co., of Leavenworth, Kan., have sent the following circular letter to their customers. "We will close our mill on 1st of June. We have just closed contract for an 800 bbl. exclusively roller mill, with the noted mill building firm of Nordyke & Marmon Co., of Indianapolis, Ind., to be completed in 90 days. When completed, we

will have the only exclusively roller mill in the state, and more than double the capacity of any mill west of the Missouri river. Situated as we are, in the middle of the best winter wheat section in the west, we hope and expect to turn out more and better flour than at any time previous. We will, with our increased capacity, be able to fill all orders on short notice. Will issue a new list in due time before starting mill, and keep you posted. From present outlook, we will have the best crop of wheat ever produced in the state, and will be able to give you cheap flour. Thanking you for past patronage, we solicit a renewal of your trade when we start new mill."

Crop reports received by the *Farmers' Review* up to May 19th are to the effect that the conditions for both wheat and corn are better, but the general situation is by no means reassuring as yet. Winter wheat is beginning to head, and spring wheat is growing well, with generally good prospects. In Illinois certain sections have improved indications for winter wheat but the crop for the state at large promises to fall short. There will be a fair average of spring wheat. The prospect in Iowa is fair, but corn planting is greatly delayed. Michigan predicts a small wheat crop, and harvest two weeks late. In Minnesota and Wisconsin the wheat prospects improved in the last two weeks. Kentucky and Tennessee report improved wheat prospects, while certain counties of Kansas predict not to exceed half a crop; other counties of Kansas continue to send in very favorable reports. Ohio and Indiana report fair prospects only for wheat. In certain sections of Missouri there is reported to be fear of chinch bugs. Dakota's prospects are very promising.

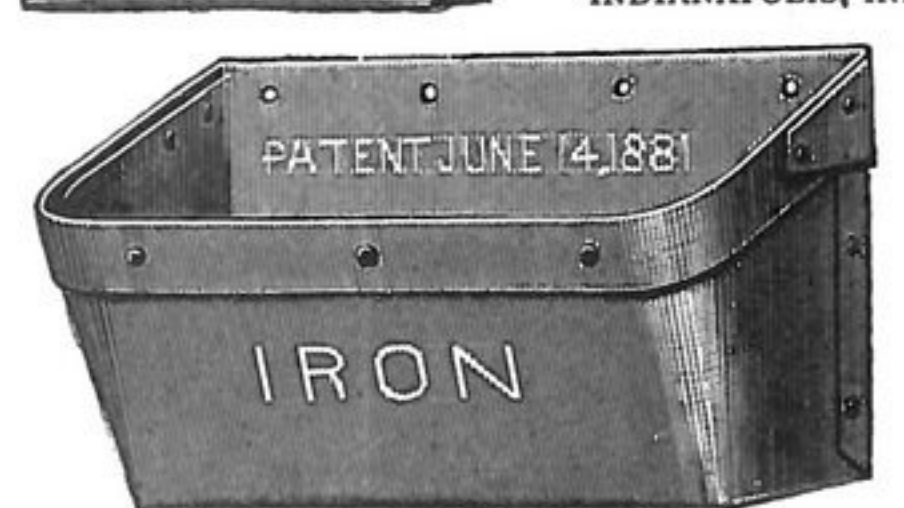
Reports from Washington state that the prospect for a large crop of winter wheat is excellent. The May average is 94 per cent. of the standard of full condition, against 83½ per cent. in 1883. This indicates an increase in the crop from 21,000,000 bushels to 350,000,000. Owing to the late spring, seeding is very late all over the country, but wheat is in large dress, rye promises fully as well, and barley will show a larger crop than for years. The area given to cultivated grasses is being increased, especially in the South, where the farmers are getting to grow a variety of crops. In portions of Dakota the low price of wheat has caused hundreds of farmers to turn their attention to stock raising. In New Hampshire the reports show that the season generally is backward. The indications point to a large bloom of apples, and a small one of pears. A smaller area of potatoes will be planted this season than last, and more of small grains. There will be quite an increase in the amount of ensilage corn planted. In Massachusetts the outlook at present is very favorable for good crops of both grain and grass, and the orchards indicate that the bloom will be unusually full.

The Brooklyn *Eagle* says: A total of 459,387 acres of land is owned by Englishmen along the line of the Northern Pacific. Messrs. Hughes & Sykes own over 85,000 acres of Dakota land in what is known as the James River Valley, and have 5,000 acres under cultivation. In the same valley Finlay Dunn and partner, of London, own 25,000 acres. Marquis Demores has about 14,000 acres in Dakota, lying along the Little Missouri, and 2,000 in Eastern Montana. Along what is known as the Western Division of the Omaha the Close brothers own vast estates. Their possessions foot up 270,000 acres, of which 150,000 are Milwaukee and St. Paul lands in Pipestone Co., Minn.; 30,000 from the same company in Osceola and Dickinson counties, Idaho; 50,000 from the Sioux City Road in Rock and Nobles counties, Minn., and 40,000 from the same road in Osceola, Sioux and Lyon counties, Idaho. The gentlemen have many thousands of acres under cultivation, and have built towns and roads (rail and wagon.) Besides the Close brothers there are forty-six foreign land owners along the line of that road in Minnesota and Iowa, the aggregate of their possessions being 53,380 acres.

THE BOSS ELEVATOR CUP



is gaining favor every day. Over 13,000 sold in one day in three different States. My capacity in my new shops is 6,000 per week. I carry 30,000 cups in stock and can take care of any size order.



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GRAY'S PATENT

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REDUCTION MACHINES,

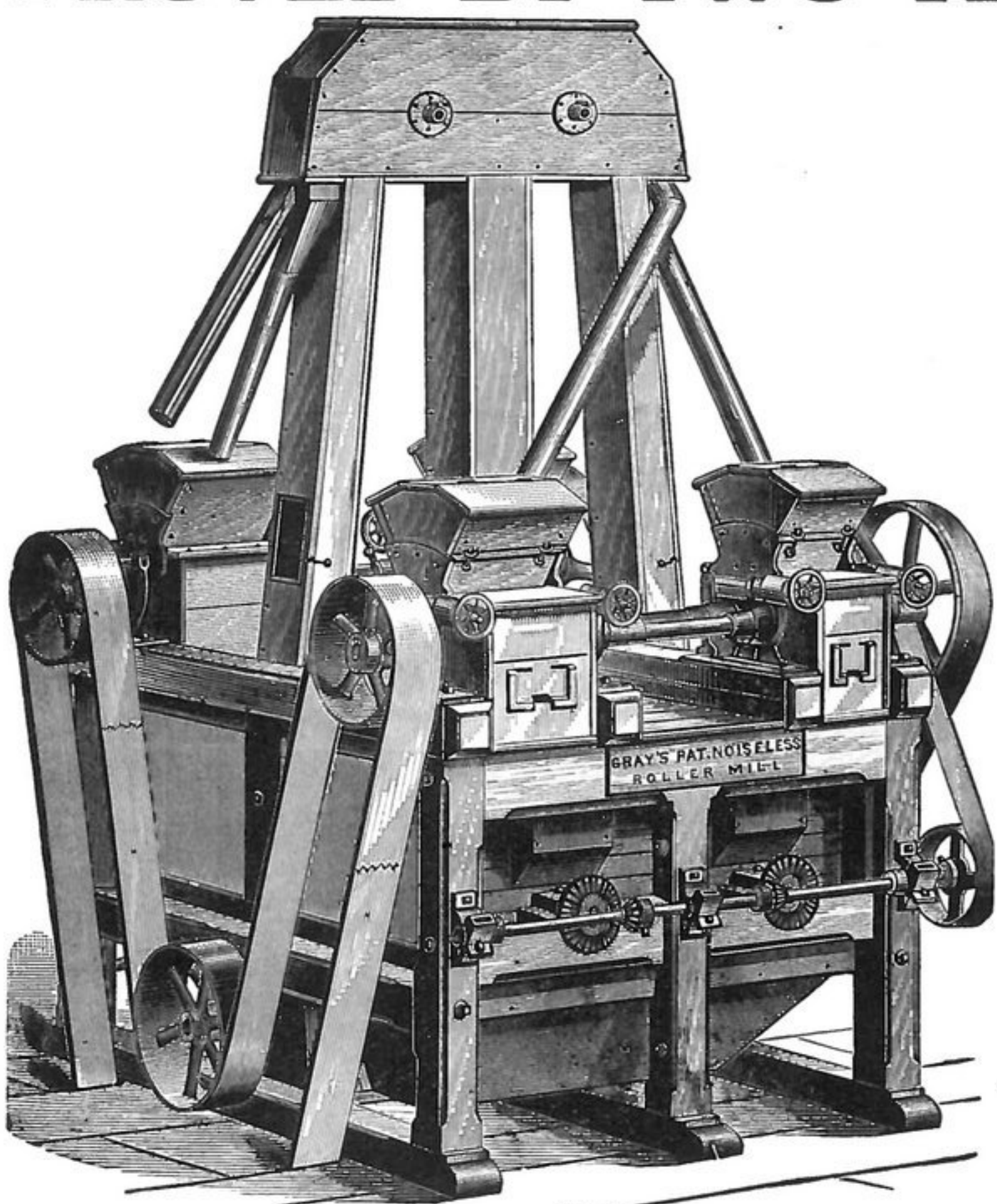
FOR SMALL MILLS

*Economizes Room,
Takes Less Power,
Saves Millwright Labor.*

Send for Circulars and Prices to

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RELIANCE WORKS,
Milwaukee, Wis.



A tool for Cutting, Leveling and Polishing the Furrows and Face of Millstones.

Eight inches long, 2 1/4 inches wide, 1 1/2 inches thick. Received the highest and only Award given to Polishers at the Millers' Exhibition, Cincinnati, Ohio, June, 1880.

For facing down high places on the buhr, this tool has no equal, and can be done much better and in one-sixth the time than with the mill pick. It is much larger, cuts better, can be used on either face or furrow; can be used until the corundum is entirely worn out on one side and then turned on the other side. Has over four times the amount of corundum and when the corundum is worn out can be replaced in the handle at a small cost. Sent by express, \$3.50. Satisfaction guaranteed, or money refunded. Address

HORACE DEAL, Bucyrus, Ohio

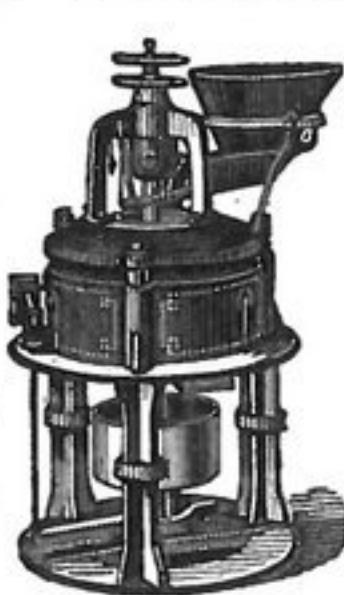


Buckwheat Refiners & Portable Mills



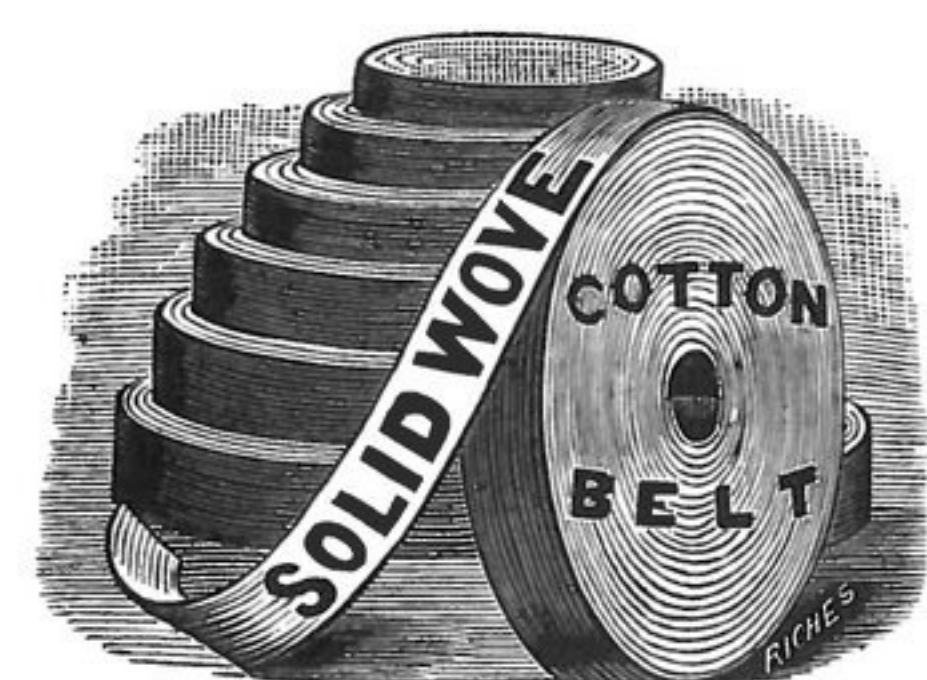
BREWSTER'S CELEBRATED
Buckwheat Refiner
Is the only machine
whereby the greatest
yields of
PURE, WHITE
SHARP FLOUR
can be obtained.
The only reliable, practical
and durable machine
IN THE WORLD.

THE POSITIVE ADJUSTMENT
AND AUTOMATIC
MIDDLINGS MILL
Is Strictly Self-Protecting
The Best Adjustment in
the World.
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Perfect Granulator
Grinds Cool, Self-Oiling, Great
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Simplicity and Durability
Combined.



Satisfaction Guaranteed on all our Goods. Send for Descriptive Circular, giving Prices, Sizes, Terms, etc.

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MILL SUPPLIES { Everything Used in a Mill of Every Kind Always on Hand.

Leather Cotton Rubber } BELTING, BOLTING CLOTH

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Prices Close and Quality the Best.

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Sole Manufacturer of the
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LUBRICATORS & SOLIDIFIED OIL

The most economical, perfect, practical, simplest, cheapest and elegantly finished Lubricators ever put on the market. One million sold within a couple of years. The Barthel Solidified Oil or Lubricating Compound is used with the Lubricators exclusively. Whoever has once tried this Lubricant will never again use oil or any other lubricating compounds. Send for Illustrated Catalogue.

A 6x12 ROLL.

We are making the neatest and most substantial 6x12 Two and Four Roller Mills, smooth and corrugated, ever put on the market. Millers wanting small rolls (as well as large), will find ours well made, neat and complete. Every pair has our Patent Automatic Feed. The price is low down.

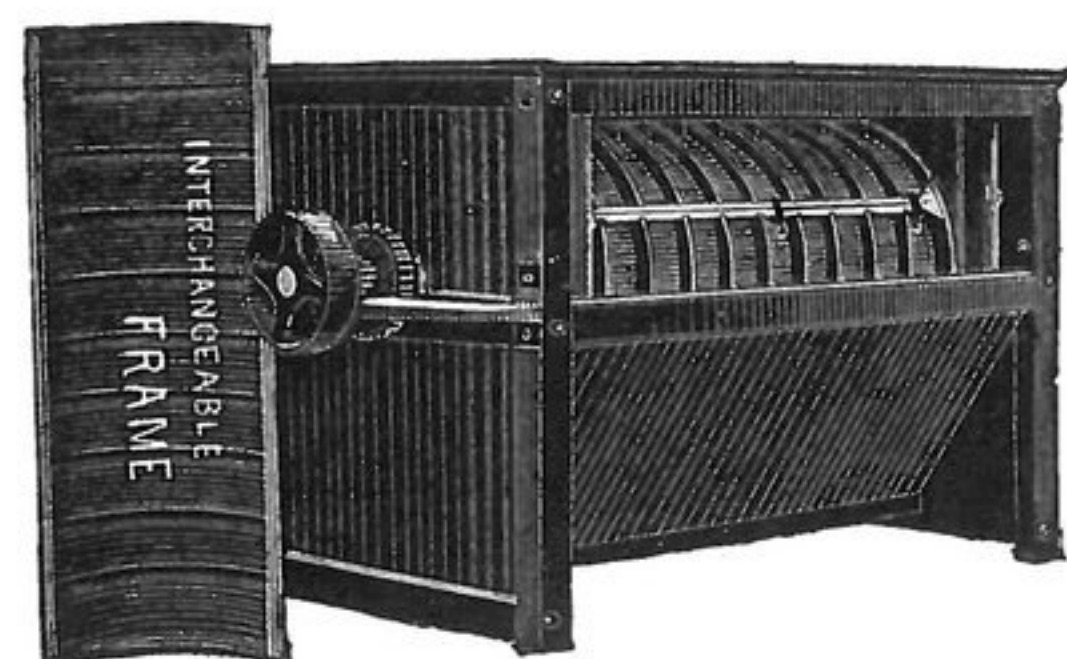
ADDRESS,

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EXCELSIOR CENTRIFUGAL FLOUR BOLTS

FRANK ANDREE'S PATENTS, awarded Blue Ribbon and a Diploma of Merit at
St. Louis Fair, Oct. 5, 1882.

Crowned With Success!



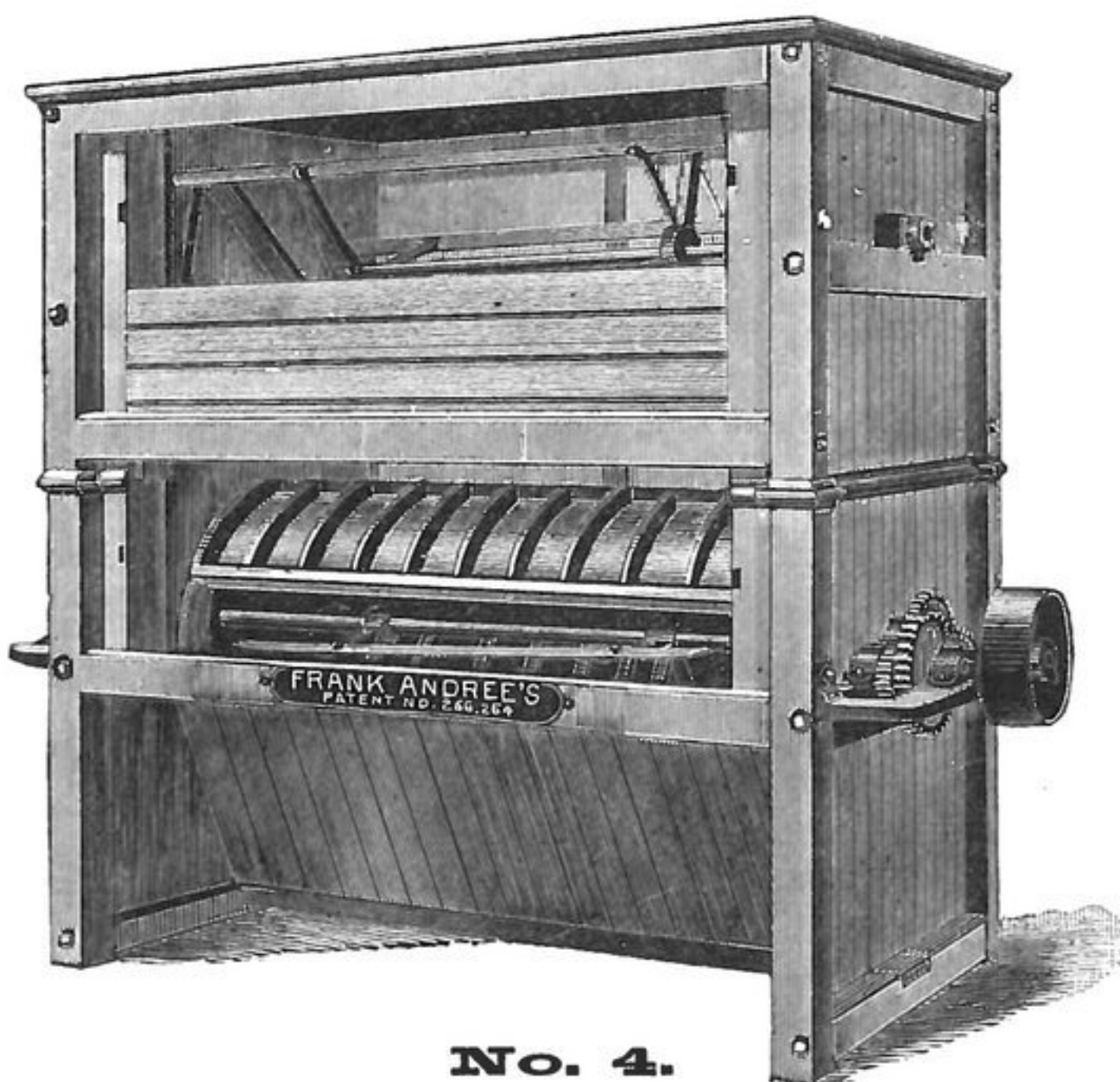
- Our No. 1 Stationary Double Reel!
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- Our No. 4 Rotary Double Reel!
- Our Interchangeable Bolting Frames!

The only complete system of Centrifugal Flour Bolting Reels in America.
The merits of simplicity, of quality, of quantity, of durability, of light running, and the entire practicability of our Reels has been demonstrated publicly and privately beyond dispute

REFERENCE GIVEN! SATISFACTION GUARANTEED!

Send For Catalogue and Price List.

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No. 4.



CHINA HAS NO USE FOR RAILROADS.

FOREIGNERS in China make a great outcry about the stupidity of the Chinese in holding out against railways, says a correspondent of the *Pall Mall Gazette*. Chinese do hold out against railways, and they are quite right, he says, in doing so. They feel that to introduce railways at present would be to flood the country with foreign engineers, contractors, managers, machine mechanics, engine drivers, etc., and once there the Chinamen fear that they would never leave, but get a hold on the country, and that China would become a second India and pass under a foreign rule. Rather than have the foreigner they go without the railway, and bide their time. Railways and all the rest will come as soon as they can make and manage them without help.

Coming up to Pekin from Tientsin he was surprised to look out of his boat and see telegraph posts stretching along the country, and learned that there had been a telegraph established between Tientsin and Tung Chou, a place fifteen miles from the capital. It was erected under foreign supervision, but is worked entirely by Chinamen. China feels herself competent to work a telegraph, and has it, not only from near Pekin to Tientsin, but from Tientsin onward to a river port near Shanghai. As soon as China feels that she can work a railway the railway will come. A great deal that is said about China being ready for railways is premature. There is hardly a place in the north of the empire where a railway would pay. What China wants first is good roads. After some ten or fifteen years of good roads an intercommunication traffic will spring up which will call for railways, but at present no such traffic, except, perhaps, on one route, has been developed and a railway, if built tomorrow, would stand rusting its rails in idleness.

NOTES.

The farming portion of France is more dense in population than any other agricultural portion of the globe. As a consequence there are 20,000 students learning gardening in their schools.

It has been agreed by authorities in Paris to purchase an estate in Algeria for use as an agricultural school for two hundred indigent children. The probable cost of the estate is, 1,100,000 francs.

At the Bath and West of England Show, which opens at Maidstone next month, there will be two or three milling exhibits, amongst others having space being Messrs. Dell & Son, and Messrs. Howes & Ewell.

The vessel containing 1,500 miles of the new Mackey-Bennett cable, left Woolwich, Monday, April 20th. The first cable will be laid between Dover Bay, N. S. and Cape Hedge, Mass. The second will not be begun until September.

Honigmann's fireless locomotive, with the caustic-soda condenser, has been used regularly since March 31 for passenger traffic between Stolberg near Aix la Chapelle and Wurfelen. The locomotive when charged, it is found, will go for twelve hours.

Marine engineering and ship building are becoming exceedingly depressed in foreign ship yards and many workmen are being paid off as their jobs get finished. The makers of sugar-mill machinery are fairly busy, and in one or two instances very busy.

Petroleum has been struck at Pomerania, and all Germany is agog. One well at Swantow is yielding 50 per cent. of pure oil, and since the Baltic sea affords such ready transportation, the Pomeranians are flattering themselves with the prospects of becoming independent of America and Russia by a home supply of mineral oil.

The total production of refined petroleum at Baku in 1883 was 206,000 tons, or double that of 1879, and nearly ten times as much as the output of 1873. Now that vast system of organization

is being established, the production, in response to the demand, cannot but increase very rapidly, the output being restricted of late years by the low prices prevailing on the spot.

Messrs. Higginbottom & Stuart, of Live pool, have made a new departure in their system of milling, by which they have reduced the number of "breaks" to three (including bran cleaning.) They claimed by this new system to make just as little "break" flour as by the previous greater number of "breaks." Of course, the cost of equipment of such a mill is much less by the new system.

At a recent meeting of the Paris Syndical Chamber for flour and grain, the question of the suppression of the *Surtaxe de pavillon* (an extra tax on certain foreign flags) and the increase of the general duty on imported wheat 1fr. 25 per rookil, and on flour to 3fr 75 per kil, gave rise to a lively discussion. Opinions were unanimous that the *Surtaxe de Pavillon* should be suppressed, and for the increase in the duty on wheat and flour there were 25 ayes and 7 noes.

French wine cultivators and fruit growers have had their prospects terribly marred by the recent weather. Owing to the brilliant and genial days of March, things were quite three weeks earlier than usual, and the recent severe frosts, coupled, as they have been, with a cloudless sky, have consequently worked sad havoc. In the vineyards of the Maconnais and of the Saone valley the damage is estimated by millions of francs. The upper Burgundy, Beaujolais Champagne, and Lorraine districts have equally suffered, and in the Franche-Comte, where there have been heavy falls of snow, the effects of the change of temperature have been especially disastrous. In the Midi and the Bordelais the mischief has been but of partial extent.

At the Blandford Farmers' Club meeting, held on Saturday, the 12th ult., the second discussion meeting took place, when Mr. C. Rickman, formerly a miller in Blandford, read a paper on "The probable future of wheat-growing in England." The paper was of a highly elaborate character, and contained a table showing the average price of wheat in England from 1190 to 1882 inclusive. Having referred at considerable length to different great centres of wheat cultivation in the world, Mr. Rickman asked, "How can the heavily handicapped British farmer compete against such odds, and with rent, rates, and taxes, tithes and extraordinary tithes, labor, local and imperial taxation, how is it possible—how is it profitable—it may be asked, to grow wheat at £8 to £9 per load, or even a lower price?" There was considerable discussion by the members of the club present, and a hearty vote of thanks was awarded to Mr. Rickman for his valuable paper.

Toledo Mill Picks and Stone Tool Mfg. Co.



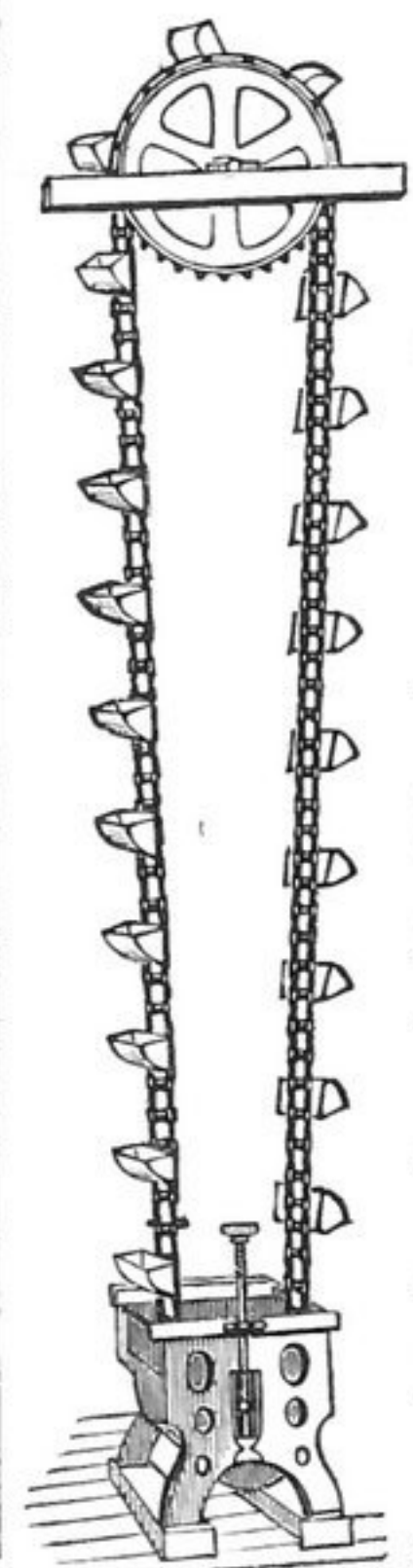
Manufacturer and Dresser of

Mill Picks.

Made of the very best double-refined English cast steel. All work guaranteed. For terms and warranty, address GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, O. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF
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AND MACHINE JOBBING.



ANTI-FRICTION

Roller Detachable

CHAIN BELTING

FOR

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CONVEYORS,
Carriers, Etc.

AND FOR

DRIVING PURPOSES.

A Superior Chain Belting

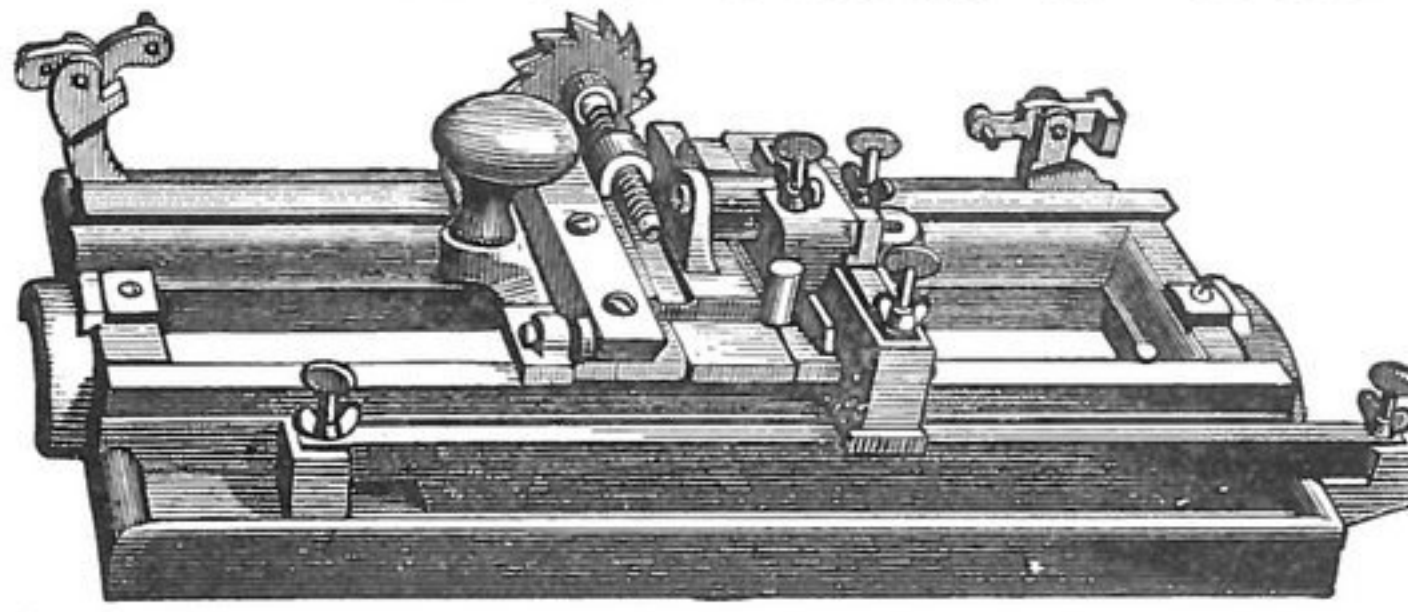
Manufactured and Sold by

Lechner Mfg. Co.

COLUMBUS, OHIO.

Send for Catalogues and Price List.

HOOVER'S IMPROVED DIAMOND MILLSTONE DRESSING MACHINE.



ADAPTED TO ALL KINDS OF DRESSING.

No 1, to face and crack	\$25.00
No. 2, to face, crack, dress furrows, and will dress any size stone.....	45.00
No. 3, to face, crack and dress furrows.....	40.00

Will do as good work, and is more easily adjusted than any other machine. Sent on 30 days' trial. Address for circulars, containing full information.

C. S. HOOVER, Patentee and Manufacturer, 409 East King St., LANCASTER, PENN.

A DECIDED IMPROVEMENT OVER ANY ROLLS WE HAVE SEEN.

Lancaster, Pa., Aug. 31, 1883.

Messrs. Griscom & Co. & McFeely, Philadelphia.

GENTLEMEN: We have now been running your double Roller Mill about 30 days, and it works to our entire satisfaction. *The adjusting device by which both ends of the rolls are adjusted at the same time is a decided improvement over any rolls we have seen, as it guarantees uniform work, and the journals being always in line, keeps them running cool. Our bran is well cleaned as you will see by sample sent you.* Yours truly, LEVAN & SON.

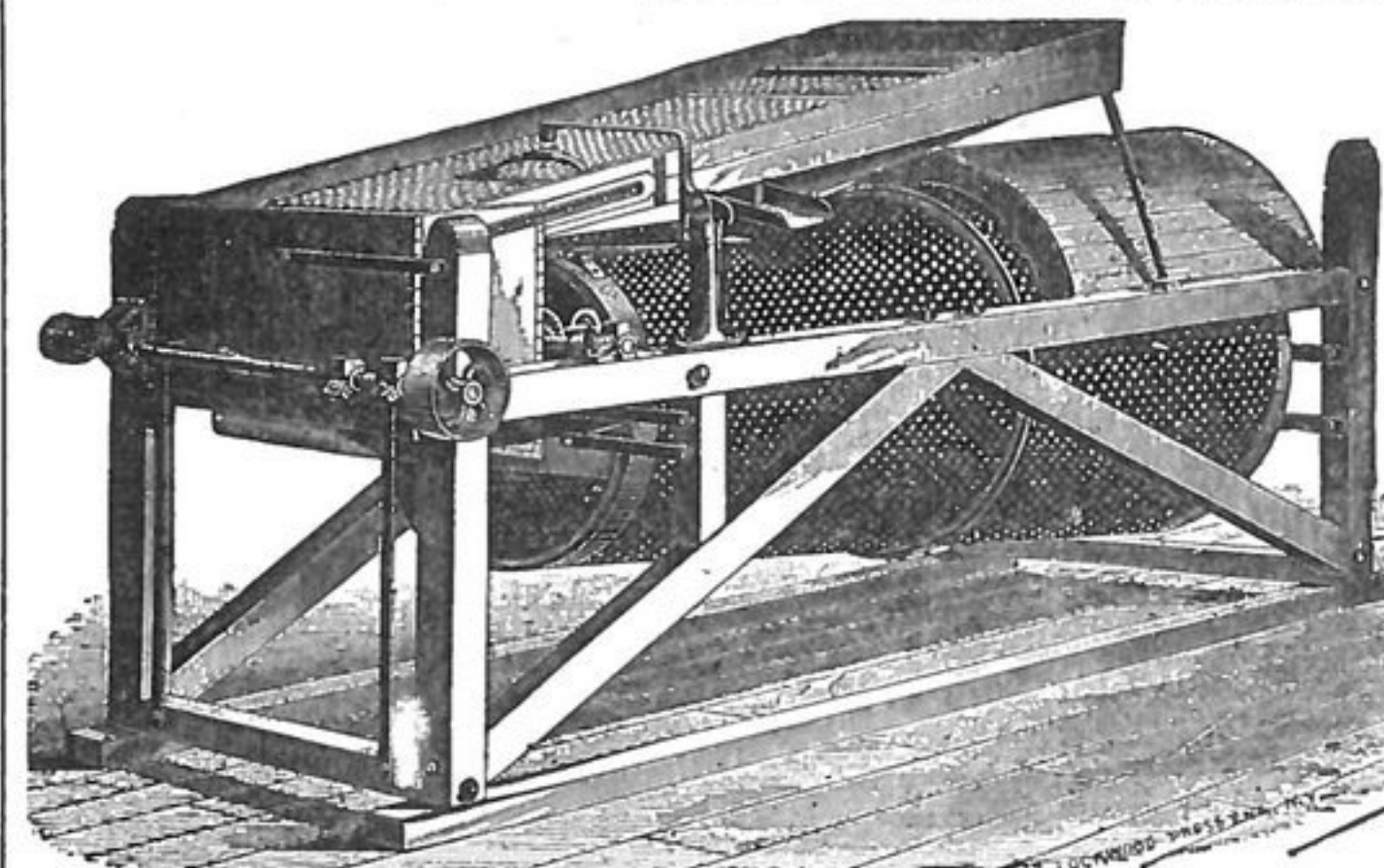
SEND FOR PARTICULARS TO

GRISCOM & CO. & MCFEELY

Manufacturers Butler Roller Mills, 110 South 4th Street, Philadelphia, Pa.

Cockle Separator Mfg. Co., Milwaukee, Wis.

GENERAL MILL FURNISHERS.



MANUFACTURERS OF

Improved Kurth's Pat.

COCKLE SEPARATOR,

Built also in combination with Richardson's Dustless

Wheat Separators.

Large Capacity Combined With Good Quality of Work.

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GRAIN CLEANERS

Fully Guaranteed to Give the Best of Satisfaction.

Pott's Pat. Automatic Feeder for Roller Mills, Purifiers, etc., very Simple and Cheap.

Perforated Sheet Metals

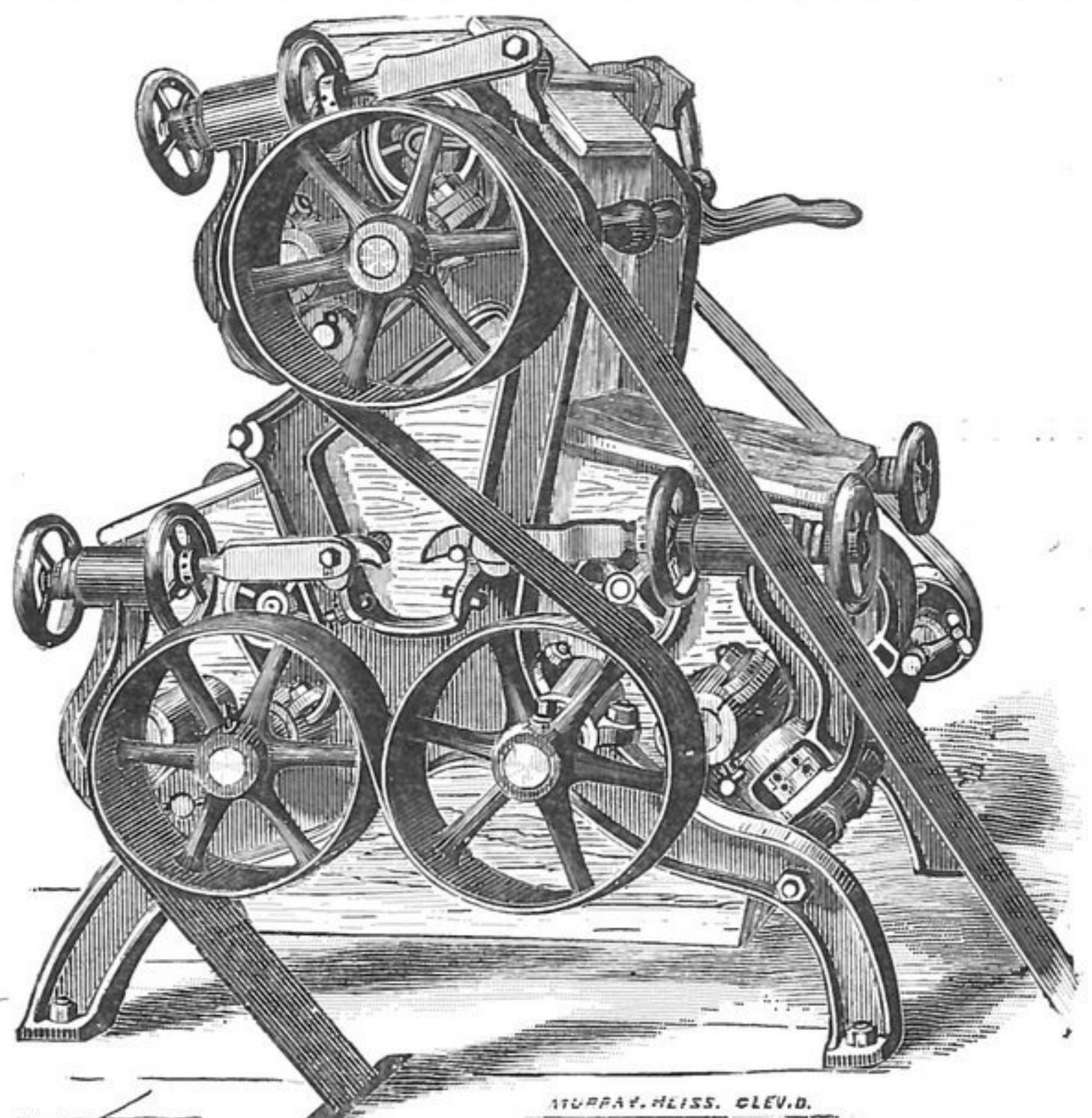
AT LOW PRICES.

Send for Circulars and Catalogues.

THE RIDER ANTI-LOW GRADE WHEAT BREAK

AND THE MILLER ROLLER MILLS.

We have had unparalleled success with our mills, and are putting in the Rider System, and changing some of the most Celebrated Mills. The leading mills of Ohio, Messrs. Hardesty Bros., Canal Dover, Ohio, are using the Rider Break and System, and cannot speak in Praises Too High for both Break and System.



We can make small mills equal to large ones. Write us for Rock Bottom Prices, and Undoubted Reference of parties using our Breaks and Rolls. By adopting our system you can save money, also save from 8 to 10 per cent low grade over other systems, and keep both quality and yield up to the best.

THE MILLER CO., CANTON, O.

TALENT TELLS! TALENT TELLS!

We believe we have in our employ the largest and most talented corps of

MILLING ENGINEERS, PRACTICAL MILLWRIGHTS AND EXPERT MILLERS,

in this or any other country. Among which are such men as

UDOLPHO H. ODELL, builder of the Washburn A Mill of Minneapolis. The Schoellkopf & Mathews Mill at Niagara Falls, and many other first-class mills, and a milling engineer of more extended practical experience in the planning and erection of mills than any other man in the country.

J. W. McKEEN, a milling engineer and practical millwright of large experience in the best mills. Mr. McKeen planned and built the Queen Bee Mills of Sioux Falls, Dakota, acknowledged to be the finest mill in America, also the Washburn C Mill at Minneapolis, and other fine mills.

FERD. WOHLGENANT, head miller for a number of years in the Washburn A Mill, Minneapolis, and with a previous large experience in the best mills of Hungary.

R. C. BROWN, milling expert, a miller of large and varied experience on all systems of milling, together with a

SCORE OF EXPERIENCED AND EXPERT MILLERS, FOREMAN MILLWRIGHTS, and HYDRAULIC ENGINEERS.

We have now under contract and in progress of construction a large number of mills both large and small in different sections of the country. We point with pride to the many hundred successful mills now running on the Odell System. We are prepared to furnish information, advice and estimates on short notice and solicit correspondence from millers.

STILWELL & BIERCE MFG. CO.

DAYTON, OHIO, U. S. A.

DUFOUR BOLTING CLOTH.

HAS BEEN AWARDED
FIRST AND ONLY PREMIUM
AT THE
Millers' International Exhibition.



Office of THE MILLING WORLD.

Buffalo, N. Y., May 28, 1884.

The situation is well outlined by the New York *Commercial Bulletin* in its issue of yesterday. The New York stock of wheat is 104,127 bushels smaller than it was a week ago, 1,050,742 bushels smaller than it was a year ago, and 755,613 bushels larger than it was two years ago. The stock of No. 2 red winter wheat is now 1,349,648 bushels—a decrease of 134,907 bushels from last week's figures. There has been a fair amount of speculative stir in the grain market. "Buy on breaks for small turns" is the popular sentiment expressed in the interchange of views between the New York and Chicago markets at the present time; but whether the venture is in the direction of the "long or short of it," the same amount of caution is observed. The ups and downs of the market have been governed by the changes in Wall street—if not altogether, at least very largely so.

The cables were not as good as hoped for, and the wheat market, with this fact and "lower Wall street" to contend with, opened $\frac{1}{2}$ to $\frac{3}{4}$ c lower and further declined $\frac{1}{4}$ c. The general swing of the market may be fairly indicated by the course of July wheat, as follows: Closed Saturday at $\$1.03\frac{3}{4}$; opened to-day at $\$1.03\frac{1}{2}$; sold at $\$1.03\frac{1}{4}$, $\$1.04\frac{3}{4}$, $\$1.04$, $\$1.04\frac{3}{4}$, $\$1.04\frac{1}{2}$, $\$1.04$ 15-16 (a "split" transaction), and closed at $\$1.04\frac{3}{4}$. The remainder of the market was regulated by the changes in the July price. At the close, as compared with Saturday's figures, the market shows an advance as follows: June $\frac{3}{4}$ c, July $\frac{3}{4}$ c, August $\frac{1}{4}$ c, and September $\frac{2}{4}$ c. Weather reports good; crop reports good; late cables unchanged. Speculative interest nerveless; export demand fair; offerings of cash wheat moderate; price of cash wheat $\frac{1}{4}$ to $\frac{1}{2}$ c higher than it was Saturday at the close; local milling demand for wheat moderate; good wheat at the West reported by the millers to be scarce.

The price of city flour is $\$5.05$. The market closed Saturday at $\$5.05$ to $\$5.10$. And about the same amount of shading must be done to sell flour of any grade or from any part of the country, unless it is of low grade, such as English and Continental buyers want and find but little of. The low grades keep firm, more because they are scarce, however, than because they are in demand. The whole market may be called quiet. The trouble about winter wheat flours in the New York market now is that we are at the end of a short winter wheat crop, with a good supply of spring wheat flours arriving on this market; and they are underselling flours made from winter wheat. The consequence is that the market for winter wheat flour is very quiet. The best patent spring wheat flours stop at $\$6.50$, and the best patent winter wheat flours are held at $\$7.00$. This unusual difference, of course, throws the demand over to the spring wheat product. The local trade demand is small. The bakers at this time of the year, generally, are not busy and the demand for the family trade is, likewise, and for the same reason small, the reason being that the consumption of bread is curtailed by the preference given to fresh fruits and vegetables. Rye flour is quiet and steady. Corn goods are all firm, especially so the white goods. Bag meal is in fair demand and steady. Mill feed is moderately active and a shade easier.

FOREIGN EXCHANGE.

Weak and irregular; posted rates being reduced to accord with actual rates. The posted rates closed at 4.84 to 4.84 $\frac{1}{2}$ for sixty days and 4.86 to 4.86 $\frac{1}{2}$ for demand. The actual rates ranged: At sixty days' sight, 4.83 $\frac{1}{4}$ to 4.83 $\frac{1}{2}$; demand, 4.84 to 4.84 $\frac{3}{4}$; cables, 4.84 $\frac{1}{2}$ to 4.85 $\frac{1}{2}$, and commercial, 4.79 $\frac{1}{2}$ to 4.80 $\frac{1}{2}$. Continental exchange nominal francs, 5.20 to 5.19 $\frac{3}{4}$ and 5.17 $\frac{1}{2}$ to 5.16 $\frac{3}{4}$; reichsmarks, 95 to 95 $\frac{1}{2}$ and 95 $\frac{1}{2}$ to 95 $\frac{3}{4}$; guilders, 39 $\frac{1}{2}$ and 40 $\frac{1}{2}$. The closing posted rates were:

	60 days.	30 days.
London.....	4 84 $\frac{1}{2}$	4 86 $\frac{1}{2}$
Paris francs.....	5 17 $\frac{1}{2}$	5 15
Geneva.....	5 16 $\frac{1}{2}$	5 14 $\frac{3}{4}$
Berlin, reichsmarks.....	95 $\frac{1}{2}$	95 $\frac{3}{4}$
Amsterdam, guilders.....	40 $\frac{1}{4}$	40 $\frac{1}{2}$

BUFFALO MARKETS.

FLOUR—City ground clear Duluth spring $\$5.25$ to $\$5.75$; straight Duluth spring, $\$5.75$ to $\$6.00$; amber, $\$5.75$ to $\$5.85$; white winter, $\$5.75$ to $\$6.00$; new process, $\$6.75$ to $\$7.00$; Graham flour, $\$5.25$ to $\$5.50$. Western straight Minnesota bakers, $\$5.75$ to $\$6.00$; clear do, $\$5.25$ to $\$5.75$; white winter, $\$6.00$ to $\$6.25$; new process, $\$6.75$ to $\$7.25$; low grade flour, $\$2.50$ to $\$4.00$. CORNMEAL—Market steady, with a fair demand. Coarse, $\$1.20$; fine, $\$1.30$ per cwt. RYE FLOUR—In fair demand at $\$3.75$ to $\$4.25$. OATMEAL—Ingersoll, $\$5.75$; Bannerman's granulated, $\$6.00$; Schumacher's Akron, $\$6.25$ per bbl. BUCKWHEAT FLOUR—Demand fair at 3.50 per cwt. WHEAT—Dull. Sale 2,000 bu. milling white at $\$1.09$ in store, and two car-loads choice red winter at $\$1.08$; No. 2 red offered at $\$1.05$. For No 1 hard, at the Call Board, $\$1.09$ asked, $\$1.06$ bid May, $\$1.06$ bid June. CORN—Lower. Sales No. 2 on track at 59c, and of new mixed at 57 to 58c in store. No. 2 offered in boat-load lots at 58c, in car lots at 58 $\frac{1}{2}$ to 58 $\frac{3}{4}$ c, May offered at 58c, and June at 58 $\frac{1}{2}$ c. OATS—Weak. Sales of No. 2 in car lots, to arrive at 38 $\frac{1}{2}$ c; cash offered at 40c. BARLEY—No. 1 Canadian 88 to 90c, No. 2 eo. 80 to 83c, No. 3 do. 70 to 75c, six-rowed State 75 to 88c. RYE—No. 2 Western nominal at 72c.

DUFOUR & CO.'S CELEBRATED BOLTING CLOTH.

FIRST AND ONLY PREMIUM
OVER ALL COMPETITORS!
PURCHASE ONLY
FROM RELIABLE DEALERS.

THE BEST AND CHEAPEST COB CRUSHER

IN THE WORLD.

Steel Being Used in its Construction.

PRICE, 30.00.

RIGHT-HAND MILL.

CAPACITY 75 BUSH. PER HOUR.

Thousands of these Crushers are now in use, and giving entire satisfaction.

Please Send for Circulars.

R. C. McCULLEY, LANCASTER, PENN.

THE "SALEM" ELEVATOR BUCKET.

SHOVEL EDGE
Seamless Rounded Corners
CURVED HEEL.



RUNS EASY
STRONG & DURABLE
EMPTIES CLEAN.

W. J. CLARK & CO., SOLE MANUFACTURERS, SALEM, OHIO.

New York Office and Salesroom, No. 9 Cliff Street.



PATNET MILLSTONE CEMENT

Invaluable to Millers for Repairing and Filling the Joints, Cavities, and Seams in French Burr and other Millstones.

PRICE PER CASE, $\$5.00$.

SEND FOR CIRCULAR.

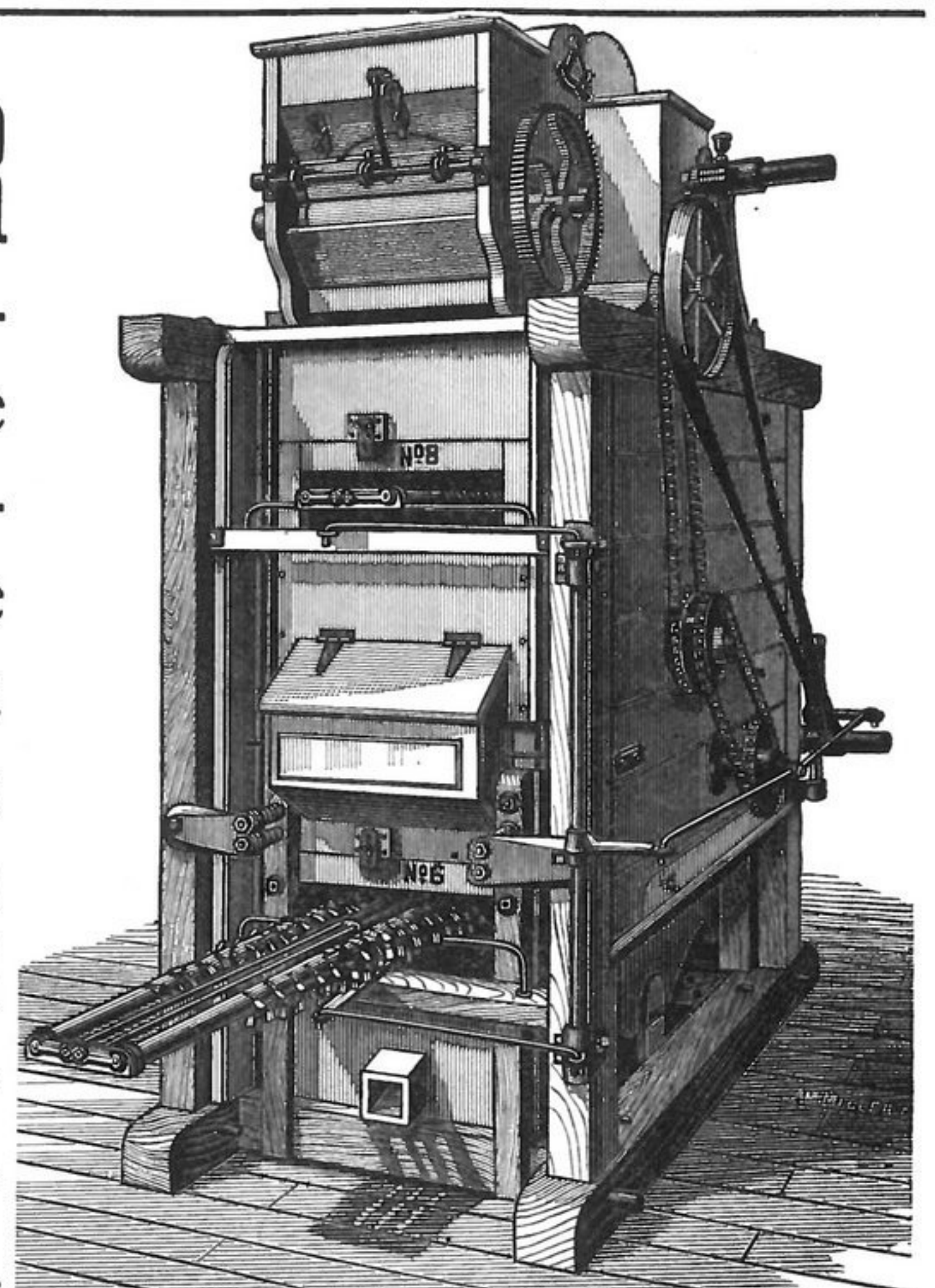
Union Stone Co., 38 & 40 Hawley Street, Boston, Mass.

Union Emery Wheels, Emery Wheel Machinery and Tools a Specialty. Wooden Polishing Wheels, Grinders' and Polishers' Supplies. Catalogue on Application.

EMERY, QUARTZ, CORUNDUM.

THE DOUBLE CURRENT PURIFIER

Has the Automatic Separating Feeder. It takes out the heavy specks between each number of cloth. It settles the heavy dust and lifts the light fuzz into the dust room. It has "Collins" Automatic Cloth Cleaner. Licensed under all conflicting patents. Descriptive circulars and prices on application. Mention this paper.



J. T. Walter, Sole Manufacturer, Easton, Pa.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Builders from the Raw Material of

ROLLER MILLS, CENTRIFUGAL REELS, FLOUR BOLTS.

WE ARE THE SOLE OWNERS FOR THE UNITED STATES, OF ALL THE PATENTS UPON THIS ROLLER MILL.

This Is the Only Roller Mill Made Having All the Essentials Needed In Successful Milling.

500 BARREL MILL IN MISSOURI.

Read what an Old Miller who has Thirty-Four Pairs of these Rolls in Constant Use, Says:

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: In regard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our average work is fully 33 per cent. over your guarantee. Since starting our mill last July we have had no complaint of our flour from any market where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston, Texas. Our yields are all that are attainable. We have tested it on both Spring and Winter wheats with satisfactory results on both varieties. Since the mill was turned over to us we have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights without shutting steam off the engine, not having a "choke" or a belt to come off. The mill is entirely satisfactory to us, and for a fine job of workmanship, milling skill and perfection of system, we doubt if it is surpassed in the United States to-day. It is certainly a grand monument to the ability and skill of Col. C. A. Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competitors, "You may try to equal, but you will never beat it." Wishing you the success that honorable dealing deserves, I am,

OFFICE OF DAVIS & FAUCETT MILLING CO.,
ST. JOSEPH, MO., Nov. 28th, 1883.

Yours, etc.,
R. H. FAUCETT, PRES.

500 BARREL MILL IN ILLINOIS.

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gents: We started up our mill in June last year, and it gives us pleasure to say that your Roller Mills are doing splendid work and give us no trouble. Your milling program required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United States at the highest prices offered for any flour. All the machinery made by you is first-class, and we would not know where to purchase as good.

OFFICE OF DAVID SUPPGER & CO.,
HIGHLAND, ILL., Jan. 10, 1884.

Yours respectfully,
DAVID SUPPGER & CO.

125 BARREL MILL IN INDIANA.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: The 125 barrel All Roller mill you built us has been running all summer, and does its work perfectly. Before contracting with you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading mill-furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes fully up to your guarantees, and the capacity runs over your guarantees. The bran and offal is practically free from flour, and our patent and bakers' flour compares favorably with any we have seen elsewhere. I don't think anyone can beat us. Your Roller Machines are the best we have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommend other millers to place their orders with you.

LAPEL, MADISON COUNTY, IND., Jan. 10, 1884.

Yours truly,
J. T. FORD.

Letters on file in our office from a large number of small roller millers giving as favorable reports as above. A portion will be published as occasion demands.

SPECIAL MILLING DEPARTMENT! Mill Builders & Contractors--Guarantee Results

Motive Power and Entire Equipment of a Modern Mill Furnished under one Contract.

BUCKWHEAT BUCKWHEAT

The Odell Buckwheat Roll.

The Odell System for Buckwheat.

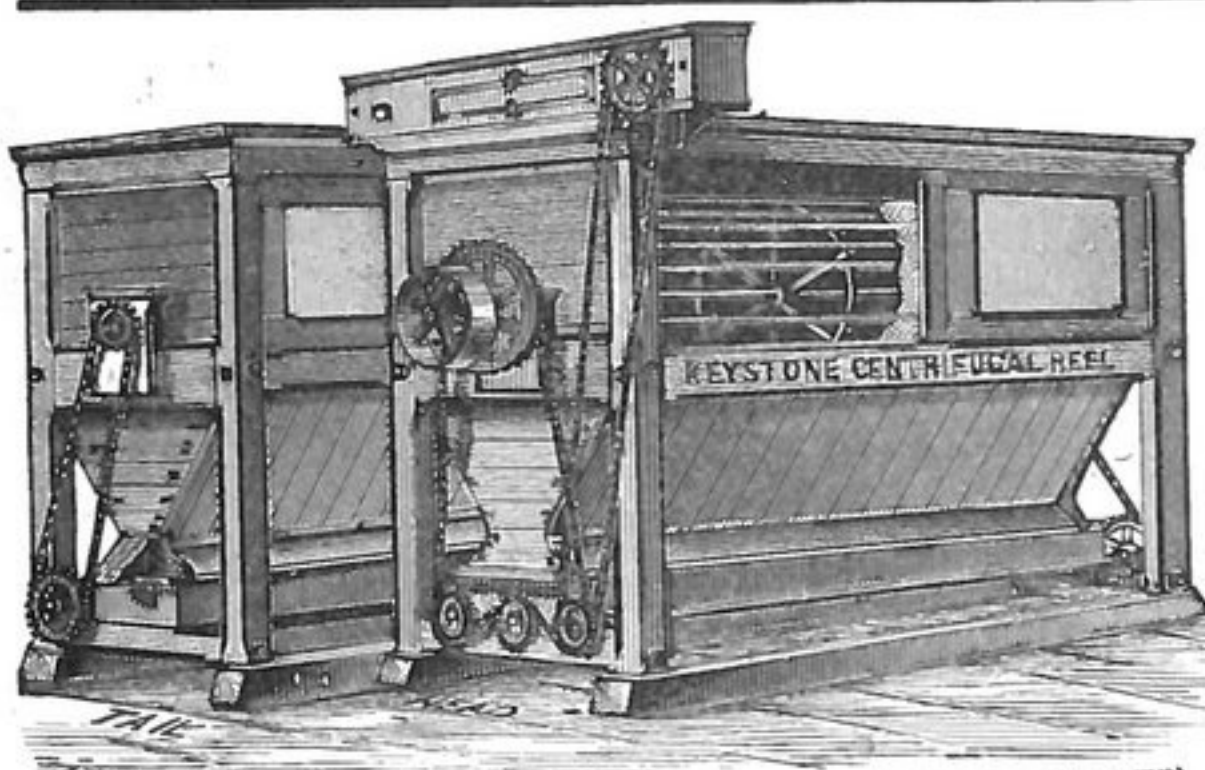
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Send for Catalogue. Cohoes, N. Y.

PORTABLE FORGES { Empire Portable Forge Co.
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KEYSTONE CENTRIFUGAL REEL

Drag Brush Feed, Tightest Heads, Best Results. Cheapest and Best on the Market. Adapted to all Kinds of Milling.

MR. C. K. BULLOCK, PHILADELPHIA, PENN.

Dear Sir: The No. 3 "Keystone Centrifugal Reel" I bought of you works satisfactorily. I think it is one of the best machines I ever put into and would not do without it if it cost double the amount of your price list.

Yours truly,

VERKES, PA., Nov. 22d, 1883

JACOB H. LANDIS.

The New Drag Feed Thoroughly Protects the Silk. Sent on Trial to any Responsible Miller. For Circulars, Prices, and Full Particulars, Address the Manufacturer,

C. K. BULLOCK, 1357, 1359, 1361 RIDGE AVE., PHILADELPHIA, PENN.

DIRECT IMPORTATION.

BOLTING CLOTH, entering as it does so largely into successful flour making, has engaged our attention to a large extent for nearly

FIFTY YEARS.

OUR EXPERIENCE therefore enables us to determine what makes are able to meet the requirements of the miller.

WE HANDLE none but the genuine NOYE & DUFOUR brands, and FULLY GUARANTEE both. Prices Greatly Reduced on both.

CORRESPONDENCE SOLICITED.

Cloths made up in a superior manner on the shortest possible notice, by patented machinery, giving a strength and durability not attainable by any other method.

ONLY THE BEST OF MATERIAL USED FOR THIS PURPOSE.

THE JOHN T. NOYE MFG. CO.,

BUFFALO, N. Y., U. S. A.

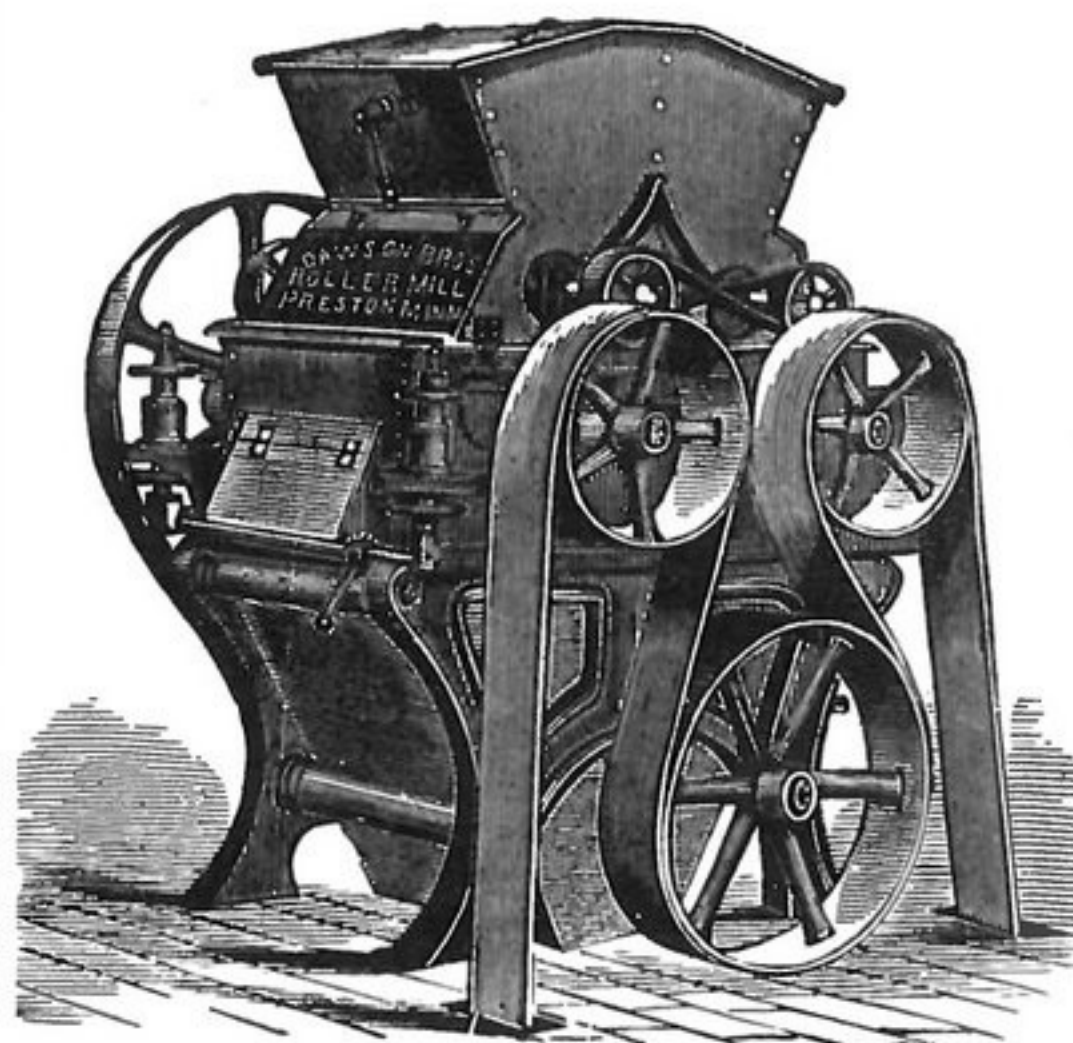
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THEY WERE MADE IN 1881 AND HAVE SINCE PASSED THROUGH A FIRE.



THE BEST
BOLTING CLOTH
—JIS—
C. SCHINDLER-ESCHER'S.
STRONG AND DURABLE
Ask Any First-Class
Mill Furnisher
For It.

Dawson Bros. Granulating Roller Mill.

IN DOUBLE OR SINGLE FRAMES.



The "Dawson" Corrugation is the *only* one which will make *all* the *breaks*, being equally as good on *Last* reduction as on *First*. The only mills made with non-friction metal bearings. Licensed under patents No. 217,518; re-issue 10,091 to George S. Cranson, and No. 260,669 to James Dawson. *Most popular Non-Cutting Rolls in use.* Have none of the bad mashing qualities of other non-cutting rolls. Conceded by all to make *more middlings and less break flour, and broader and cleaner bran*, than any roll made. The "New Idea," a roller mill and scalper combined, especially suited for small custom mills, now made by us, is a grand success. We are prepared to contract for building or remodeling mills on the *complete* or *combined* roller system. Having built several large mills in this vicinity, where we can show our roller mills in full operation, we shall be pleased to have calls from any one needing mill machinery and roller mills. Plans and Estimates furnished.

Dawson Bros.,

Manufacturers of the Celebrated Cranson-Dawson
Roller Mill, Mill Builders and Furnishers,
WILMINGTON, DELAWARE.

THE EXCELSIOR ANCHOR BOLTING CLOTH TO THE FRONT.

RECOGNIZED AS THE QUEEN OF ALL BOLT CLOTHS BY ONE-THIRD OF THE MILL OWNERS, MILLERS AND BUILDERS IN THE UNITED STATES, AND THEIR VERDICT IS "GIVE US THE EXCELSIOR AND NO OTHER!" SEND FOR DISCOUNTS AND PRICES FOR MAKING UP, WHICH ARE GREATLY REDUCED.



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Successors in the Bolting Cloth Trade to Huntley, Holcomb & Heine, Holcomb & Heine and Aug. Heine.